

This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`





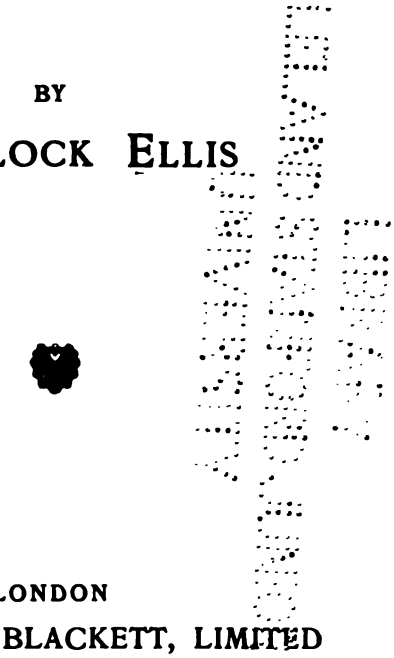




A STUDY OF BRITISH GENIUS

BY

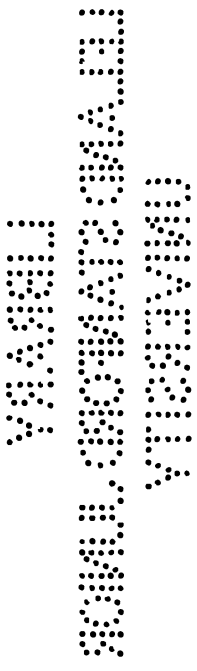
HAVELOCK ELLIS



LONDON
HURST AND BLACKETT, LIMITED
13, Great Marlborough Street, W.
1904

All rights reserved

159.6
E47



10906

PREFACE.

FOR many years past material has been growing under my hands bearing on the psychological and anthropological characters of genius, and from time to time I have examined these data and reached certain, more or less secure, conclusions. These conclusions, together with a summary of the material on which they are founded, I hope to set forth in a series of volumes. In the meanwhile, however, I am absorbed in another task, which will yet take some years to complete, and since life is short I have thought it well not to delay longer the publication of the first of my studies of genius. It deals with a subject which can scarcely fail to be of interest to most of us, even apart from the biological questions involved, and, as it stands, it seems to illustrate by a single concrete example of the first importance—the genius of Great Britain—many of the special characteristics of genius generally.

In the past the phenomena of genius have mostly been approached from two distinct standpoints. In the first place they were dealt with by alienists who, being impressed by the fact that certain men of eminent genius had pre-

sented symptoms which may properly be termed insane, became unduly inclined to attribute insanity to the manifestations of genius generally. On the other hand the subject has more recently been taken up by anthropologists who have ignored altogether the psychiatric, and even for the most part the psychological, aspects of genius. Mr. Galton is the earliest and the most distinguished exponent of this highly important aspect of the study of genius. In the Prefatory Chapter to the second edition (1892) of *Hereditary Genius* Mr. Galton has admitted that it is not the only aspect, stating that some place must be given to the study of genius as a mental anomaly, an "inborn excitability and peculiarity."

My own attempt to investigate the phenomena of genius may be said to start from the point where Mr. Galton's left off (though my standpoint was reached some years before 1892). My method of approaching the group corresponds, so far as the data allow, with that which in France Dr. Toulouse has recently adopted so brilliantly and thoroughly (notably in his study of Zola) in approaching the individual man of genius. From the purely psychiatric standpoint, from the purely anthropological standpoint, it is alike impossible to interpret the phenomena of genius adequately. The methods which are instructive in the lunatic asylum, or those other methods (such as under Dr. Haddon's initiating influence have been carried out by Dr. Browne in the islands of the west of Ireland) which prove fruitful in

isolated communities of the normal population are here both out of place. In a study of genius which is biological in the widest sense of that term, we must ascertain alike the psychological data and the anthropological data, normal and abnormal, and seek to balance them steadily, without swerving unduly either to the right hand or to the left.

The plan of the present book is simple. The bulk of the volume is taken up with the succinct co-ordination and summation of the data before us, all introduction of foreign matter which might unduly overweight the conclusions at any point being strictly excluded. In small type are inserted the results obtained by previous investigators on somewhat similar bodies of data, together with the results obtained by the study of other mentally abnormal groups; these results are often of the highest significance in enabling us to interpret our conclusions. In the Appendices I have brought together some of the elementary facts on which I have worked; the reader is thus enabled to examine and check my methods for himself; he will also, I hope, be able at many points to correct or amplify the original data.

I had purposed to represent the results of this study graphically by means of curves. On consideration, however, it seemed that such a method was unsuited to the nature of the data, and might tend to mislead the reader. For most of the groups of facts here dealt with the data

are necessarily incomplete, and although a more thorough sifting of the sources would certainly yield further facts, they would in the end still remain incomplete. It is undesirable to give an air of precision to data which we have indeed good reason to consider approximately correct, but which at the same time do not enable us to reach the exact composition of the whole of the groups we are dealing with.

HAVELOCK ELLIS.

Carbis Water, Lelant, Cornwall.

CONTENTS.

I.

INTRODUCTORY.

PAGE

The problem to be investigated—The method of investigation—The Dictionary of National Biography—The principle ruling the selection of names—Cattell's method of selection—Reasons for the principles here adopted—Proportion of eminent women to eminent men—The distribution of intellectual ability in the various centuries—The biological data with which the present inquiry is chiefly concerned—Fallacies to be avoided 1

II.

NATIONALITY AND RACE.

The determination of place of origin—Birthplaces of grandparents the best available criteria—Relative productiveness in genius of England, Wales, Scotland and Ireland — The group of mixed British origin—The group of mixed British and foreign origin—Importance of the French element—Origins of eminent British women—The distribution of English genius according to counties—The genius of Kent — The regional distribution of British women of ability—The probable predominance of Norfolk and Suffolk in relative amount of ability—The three great foci of English genius—The East Anglian focus—The apparent poverty of London in aboriginal genius—The south-western focus—The Welsh Border—The Anglo-Danish district—The psychological character-

PAGE

istics of East Anglian genius—The characteristics of the south-west focus—The characteristics of the Welsh Border—The significance of the position of Kent—The distribution of genius in Wales—The distribution of genius in Scotland—The distribution of genius in Ireland—The regional distribution of various kinds of ability—The distribution of scientific ability—The regional variations of scientific aptitude—The distribution of eminent soldiers—The distribution of eminent sailors—The distribution of artists—The distribution of dramatic ability—The possible modification of racial factors by environmental conditions 20

III.

SOCIAL CLASS.

Status of parents of British men of genius—Upper class—Yeomen and farmers — Clergy—Medicine—Law—Army—Navy—Miscellaneous professions—Commercial classes—Crafts—Artisans and unskilled —The parentage of artists—The parentage of actors—How far change has taken place in the social composition of the genius-producing class—Comparison of the genius-producing class with the ordinary population 77

IV.

HEREDITY AND PARENTAGE.

The tendency to heredity in intellectual ability—Inheritance of ability equally frequent through father and mother—Mental abnormality in the parents—Size of the families to which persons of eminent ability belong—Normal standards of comparison—Genius-producing families tend to be large—Men of ability tend to be the offspring of predominantly boy-producing parents—Women of ability apparently tend to belong to girl-producing parents—Position in the family of the child of genius—Tendency of men of ability to be youngest and more especially eldest children—The age of the parents of eminent persons at their birth—Tendency to disparity of age in parents 94

V.

CHILDHOOD AND YOUTH.

PAGE

The frequency of constitutional delicacy in infancy and childhood—Tendency of those who were weak in infancy to become robust later—The prevalence of precocity—University education—The frequency of prolonged residence abroad in early life . . . 133

VI.

MARRIAGE AND FAMILY.

Celibacy—Average age at marriage—Tendency to marry late—Age of eminent women at marriage—Apparently a greater tendency to celibacy among persons of ability than among the ordinary population — Marriage — Fertility and sterility alike pronounced—Average size of families—Proportion of children of each sex . . 152

VII.

DURATION OF LIFE.

The fallacy involved in estimating the longevity of eminent men—The real bearing of the data—Mortality at different ages . . . 171

VIII.

PATHOLOGY.

Relative ill-health—Consumption—The psychology of consumption—Gout—Its extreme frequency in men of ability—The possible reasons for the association between gout and ability—Other uric acid diseases—Asthma and angina pectoris—Insanity—The question of its significance—Apparent rarity of grave nervous diseases—Frequency of minor nervous disorders—Stammering—Its significance—High-pitched voice — Spasmodic movements — Illegible handwriting—Short sight—Awkwardness of movement . . . 177

IX.

STATURE.

Nature of the data—Tendency of British men of ability to vary from the average in the direction of short and more especially of tall stature —Apparent deficiency of the medium-sized 204

X.

PIGMENTATION.

PAGE

Hair and eye-colour—Method of classification—Sources of data—The index of pigmentation—Its marked variation in the different intellectual groups—Some probable causes for this variation . . 209

XI.

OTHER CHARACTERISTICS.

Personal beauty or the reverse—The eyes—Shyness and timidity—Tendency to melancholy—Persecution by the world . . . 217

XII.

CONCLUSIONS.

The characteristics of men of genius probably to a large extent independent of the particular field their ability is shown in—What is the "temperament" of genius?—In what sense genius is healthy—The probable basis of inaptitude for ordinary life—In what sense genius is a neurosis 224

APPENDICES.

LIST OF EMINENT PERSONS OF ABILITY 237

ORIGINS OF BRITISH PERSONS OF ABILITY . . . 252

OCCUPATION OR SOCIAL POSITION OF FATHERS . . 281

STATURE 290

PIGMENTATION 292

A STUDY OF BRITISH GENIUS.

I.

INTRODUCTORY.

The problem to be investigated—The method of investigation—The *Dictionary of National Biography*—The principles ruling the selection of names—Cattell's method of selection—Reasons for the principles here adopted—Proportion of eminent women to eminent men—The distribution of intellectual ability in the various centuries—The biological data with which the present inquiry is chiefly concerned—Fallacies to be avoided.

UNTIL now it has not been possible to obtain any comprehensive view of the men and women who have chiefly built up English civilization. It has not, therefore, been possible to study their personal characteristics as a group. The sixty-six volumes of the *Dictionary of National Biography* have for the first time enabled us to construct an authoritative and well-balanced scheme of the persons of illustrious genius, in every department, who have appeared in the British Isles from the beginning of history down to the end of the nine-

PAGE

istics of East Anglian genius—The characteristics of the south-west focus—The characteristics of the Welsh Border—The significance of the position of Kent—The distribution of genius in Wales—The distribution of genius in Scotland—The distribution of genius in Ireland—The regional distribution of various kinds of ability—The distribution of scientific ability—The regional variations of scientific aptitude—The distribution of eminent soldiers—The distribution of eminent sailors—The distribution of artists—The distribution of dramatic ability—The possible modification of racial factors by environmental conditions 20

III.

SOCIAL CLASS.

Status of parents of British men of genius—Upper class—Yeomen and farmers — Clergy—Medicine—Law—Army—Navy—Miscellaneous professions—Commercial classes—Crafts—Artisans and unskilled —The parentage of artists—The parentage of actors—How far change has taken place in the social composition of the genius-producing class—Comparison of the genius-producing class with the ordinary population 77

IV.

HEREDITY AND PARENTAGE.

The tendency to heredity in intellectual ability—Inheritance of ability equally frequent through father and mother—Mental abnormality in the parents—Size of the families to which persons of eminent ability belong—Normal standards of comparison—Genius-producing families tend to be large—Men of ability tend to be the offspring of predominantly boy-producing parents—Women of ability apparently tend to belong to girl-producing parents—Position in the family of the child of genius—Tendency of men of ability to be youngest and more especially eldest children—The age of the parents of eminent persons at their birth—Tendency to disparity of age in the parents 94

V.

CHILDHOOD AND YOUTH.

PAGE

The frequency of constitutional delicacy in infancy and childhood—Tendency of those who were weak in infancy to become robust later—The prevalence of precocity—University education—The frequency of prolonged residence abroad in early life . . . 133

VI.

MARRIAGE AND FAMILY.

Celibacy—Average age at marriage—Tendency to marry late—Age of eminent women at marriage—Apparently a greater tendency to celibacy among persons of ability than among the ordinary population — Marriage — Fertility and sterility alike pronounced—Average size of families—Proportion of children of each sex . . 152

VII.

DURATION OF LIFE.

The fallacy involved in estimating the longevity of eminent men—The real bearing of the data—Mortality at different ages . . . 171

VIII.

PATHOLOGY.

Relative ill-health—Consumption—The psychology of consumption—Gout—Its extreme frequency in men of ability—The possible reasons for the association between gout and ability—Other uric acid diseases—Asthma and angina pectoris—Insanity—The question of its significance—Apparent rarity of grave nervous diseases—Frequency of minor nervous disorders—Stammering—Its significance—High-pitched voice — Spasmodic movements — Illegible handwriting—Short sight—Awkwardness of movement . . . 177

IX.

STATURE.

Nature of the data—Tendency of British men of ability to vary from the average in the direction of short and more especially of tall stature —Apparent deficiency of the medium-sized 204

X.

PIGMENTATION.

PAGE

Hair and eye-colour—Method of classification—Sources of data—The index of pigmentation—Its marked variation in the different intellectual groups—Some probable causes for this variation . . 209

XI.

OTHER CHARACTERISTICS.

Personal beauty or the reverse—The eyes—Shyness and timidity—Tendency to melancholy—Persecution by the world . . . 217

XII.

CONCLUSIONS.

The characteristics of men of genius probably to a large extent independent of the particular field their ability is shown in—What is the "temperament" of genius?—In what sense genius is healthy—The probable basis of inaptitude for ordinary life—In what sense genius is a neurosis 224

APPENDICES.

LIST OF EMINENT PERSONS OF ABILITY 237

ORIGINS OF BRITISH PERSONS OF ABILITY . . . 252

OCCUPATION OR SOCIAL POSITION OF FATHERS . . 281

STATURE 290

PIGMENTATION 292

A STUDY OF BRITISH GENIUS.

I.

INTRODUCTORY.

The problem to be investigated—The method of investigation—The *Dictionary of National Biography*—The principles ruling the selection of names—Cattell's method of selection—Reasons for the principles here adopted—Proportion of eminent women to eminent men—The distribution of intellectual ability in the various centuries—The biological data with which the present inquiry is chiefly concerned—Fallacies to be avoided.

UNTIL now it has not been possible to obtain any comprehensive view of the men and women who have chiefly built up English civilization. It has not, therefore, been possible to study their personal characteristics as a group. The sixty-six volumes of the *Dictionary of National Biography* have for the first time enabled us to construct an authoritative and well-balanced scheme of the persons of illustrious genius, in every department, who have appeared in the British Isles from the beginning of history down to the end of the nine-

has clearly been of a kind which could not be aided by position and influence; thus I have included the third Earl of Shaftesbury, for it cannot be held that the possession of an earldom tends to aid a man in becoming a philosopher. It has, however, very rarely indeed been necessary to accord this privilege; I have always refrained from according it in the case of soldiers and statesmen.

Having eliminated those whose position in the world has clearly been influenced by the accident of birth, it remained to eliminate those whose place in the world, as well as in the *Dictionary*, was comparatively small. After some consideration I decided that, generally speaking, those persons to whom less than three pages were allotted were evidently not regarded by the editors, and could scarcely be generally regarded, as of the first rank of eminence. Accordingly, I excluded all those individuals to whom less than that amount of space was devoted. When this was done, however, I found it necessary to go through the *Dictionary* again, treating this rule in a somewhat more liberal manner. I had so far obtained some 700 names, but I had excluded many persons of undoubtedly very eminent ability and achievement; Hutton, the geologist, and Jane Austen, the novelist, for instance, could scarcely

be omitted from a study of British genius. It was evident that persons with eventful lives had a better chance of occupying much space than other persons of equal ability with uneventful lives. Moreover, I found that a somewhat rigid adherence to the rule I had laid down had sometimes resulted in groups that were too small and too ill-balanced to be useful for study. In the case of musical composers, for instance, while those of recent times, of whom much is known, bulk largely in the *Dictionary*, the earlier musicians, of whom little is known, though their eminence is much greater, were excluded from my list. On the other hand, a certain number of persons had been included because, though of quite ordinary ability (like Bradshaw, the regicide), they happened by accident to have played a considerable part in history. In going through the *Dictionary* a second time, therefore, I modified my list in accordance with a new rule, to the effect that biographies occupying less than three pages should be included if the writers seemed to consider that their subjects had shown intellectual ability of a high order, and that those occupying more space should be excluded if the writers considered that their subjects displayed no high intellectual ability. In this way I eliminated those persons who rank chiefly as villains (like Titus Oates), and have

little claim to the possession of any eminent degree of intellectual ability. I likewise felt compelled to exclude women (like Lady Hamilton) whose fame is not due to intellectual ability, but to beauty and to connection with eminent persons. I also omitted one or two persons for the reason that, although their claim to inclusion was unimpeachable, we are not in possession of a single definite biographical fact concerning them; from the present point of view they would merely cumber the ground.

So far as possible, it will be seen, I have sought to subordinate my own private judgment in making the selection. It has been my object to place the list, so far as possible, on an objective basis. At the same time, it is evident that, while I only reserved to myself a casting vote on doubtful points, there was inevitably a certain proportion of cases where this personal vote had to be given. A purely mechanical method of making selections would necessarily lead to various absurdities, and all that I can claim is that the principles of selection I adopted have involved a minimum of interference on my part. It is certainly true that, even after much consideration and repeated revision, I remain myself still in doubt regarding a certain proportion of people included in my list and a certain proportion

omitted. Indeed any reader who finds on going through my list that there are certain omitted names which most certainly ought to have been included, and certain included names which might well be omitted, will have reached precisely the conclusion which I have myself reached. However often I went through the *Dictionary*, I know that I should each time make a few trifling readjustments, and any one else who took the trouble to go over the ground I have traversed would likewise wish to make readjustments. But I am convinced that if my principles of selection are accepted, the margin for such readjustment is narrow.

It will be observed that, by means of a slightly complicated and so far as possible objective method of selection, I have not merely sought to include only individuals of a very high order of intellectual ability, but have at the same time sought to avoid, so far as possible, the omission of others who may have an equal claim to inclusion on account of their possession of a high degree of intellectual ability. It will at the same time be observed that I do not claim to be absolutely successful either as regards the inclusions or the omissions. I must hasten to add that any failure here very slightly impairs the primary object of this study. It has not been my main

object to attain a final list to date of those British men and women who have shown the highest degree of intellectual ability. I wished to ascertain some of the biological characteristics —anthropological and psychological—of persons of the highest intellectual ability produced by Great Britain. For this purpose it was essential that the list should be carefully and impartially obtained; it was not essential that it should be faultless, although that was the ideal I set before myself.

There is some interest in comparing my list with another list, prepared by Professor Cattell, of the 1,000 most eminent men that have appeared in the world generally (J. McKeen Cattell, "A Statistical Study of Eminent Men," *Popular Science Monthly*, Feb., 1903). Professor Cattell, in constructing the list, adhered rigidly to the very simple and mechanical method of selection which I had at first proposed to follow, but, as has been above explained, found it desirable in some degree to modify by the adoption of additional rules of selection. He took six biographical dictionaries—English, French, German, and American—and, reducing space to a common standard, selected the 1,000 persons who were allowed the greatest average space, inclusion in at least three of the dictionaries being regarded as an essential condition. The list was thus, so far as Professor Cattell was concerned, absolutely objective.

Of Professor Cattell's 1,000 most eminent persons, 243, or nearly a quarter, appear to be British or to have

flourished in Great Britain. Of these as many as at least 60 are not found in my list. (As the names in Professor Cattell's list appear without dates, the identification is not always quite certain.) Of these 60, 33 were excluded from my list as royal personages, and 20 as belonging to the hereditary aristocracy. There remain 7 who, since they thus figure among the 1,000 most eminent persons who ever lived, ought surely to appear in my longer list of purely British persons. One, Jeffreys, was excluded because, although he may not have been without legal ability, the space which he occupies in the minds of men is not due to his ability, but to the scandal which he caused; he lives rather as a bad man than as a man of genius. In a somewhat similar manner, Macpherson, who appears in Professor Cattell's list but not in mine, was excluded because, although he occupies an important position in literary history, his contributions to literature have their main value from the traditions they embody; he is an insignificant character who accidently aroused great controversies, and showed little or no ability in his undoubtedly original literary work. Another, Thomas Brown, is a metaphysician, who, at all events in the *Dictionary*, is regarded as of little importance. Another, Robert Hall, was a Baptist preacher who left a reputation for pulpit oratory. The remaining three—Arbuthnot, Armstrong, and Akenside—are minor literary men whose productions are now unread, though it is possible that one, Armstrong, is undeservedly neglected. I do not consider that the exclusion of these seven persons reveals a very serious defect in my list, even though it may well be that a few individuals have found their way into my list who showed intellectual ability that was of but little higher order.

An examination of Professor Cattell's list suffices to show how extremely difficult it is to obtain a reliable estimate of intellectual eminence on a simple objective basis. A test which places Napoleon III: as the eleventh greatest man that ever lived—before Homer, Newton, and Alexander the Great—and includes some unread minor poets, while it excludes Gilbert, "the father of experimental science," is scarcely satisfactory. It is certainly better than a subjective method, but its results seem to justify such an attempt as I have made, however imperfectly, to adopt a more complexly objective method of selection.

In the final result my selection yields 975 British men of a high degree of intellectual eminence. The eminent women number 55, being in proportion to the men about 1 to 18.

A slightly lower standard of ability, it would appear, prevails among the women than among the men. On account of the greater rarity of intellectual ability in women, they have often played a large part in the world on the strength of achievements which would not have allowed a man to play a similarly large part. It seemed, again, impossible to exclude various women of powerful and influential personality, though their achievements were not always considerable. I allude to such persons as Hannah More and Mrs. Montague. Even Mrs. Somerville, the only feminine representative of science in my

list, could scarcely be included were she not a woman, for she was little more than the accomplished popularizer of scientific results. In one department, and one only, the women seem to be little, if at all, inferior to the men in ability, that is in acting.

Professor Cattell finds the proportion of women in his list of the most eminent persons of history generally to be 3.2 per cent., while in my British list it is higher, being 5.3 per cent. This is a difference which might have been anticipated, since my list refers only to post-classical times, includes persons of a lower degree of eminence, and is concerned with a people among whom the conditions have possibly been more than usually favourable to the development of ability in women.

It may be asked how these 1,030 persons of pre-eminent intellectual ability have been distributed through the course of English history. I find that from the fourth to the tenth centuries, inclusive, there are only 11 men of sufficient distinction to appear in my lists, nearly half of these belonging to the seventh century. From that date onwards (reckoning by the date of birth) we find that the eleventh century yields 5, the twelfth yields 11, the thirteenth 9, the fourteenth 16, the fifteenth 32, the sixteenth 161, the seventeenth 191, the eighteenth 372, the nineteenth 223. It is probable that the estimate most nearly

corresponds to the actual facts as regards the seventeenth and eighteenth centuries. Before that time our information is too scanty, so that many men of notable ability have passed away without record. In the nineteenth century, on the other hand, the material has been too copious, and the national biographers have probably tended to become unduly appreciative of every faint manifestation of intellectual ability. The extraordinary productiveness of the eighteenth century is very remarkable. In order to realize the significance of the facts, however, a century is too long a period. Distributing our persons of genius into half-century periods, I find that the following groups are formed:

1101-1150	1151-1200	1201-1250	1251-1300	1301-1350
4	7	2	7	6
1351-1400	1401-1450	1451-1500	1501-1550	1551-1600
10	6	26	49	112
1601-1650	1651-1700	1701-1750	1751-1800	1801-1830
112	79	134	238	219

Only four individuals belong to the second half of the nineteenth century. It is scarcely necessary to remark that the record for the first half

of the nineteenth century is still incomplete. Taking the experience of the previous century as a basis, it may be estimated that some 35 per cent. of the eminent persons belonging to the first half of the nineteenth century are still alive. This would raise that half-century to the first place, but it may be pointed out that the increase on the previous half-century would be comparatively small, and also that the result must be discounted by the inevitable tendency to overestimate the men of recent times. We have to accept the perspective by which near things look large and remote things look small, but we must not be duped by it.

When we bear in mind that the activities of the individuals in each of these groups really fall, on the whole, into the succeeding period, certain interesting points are suggested. We note how the waves of Humanism and Reformation, when striking the shores of Britain, have stirred intellectual activity, and have been prolonged and intensified in the delayed English Renaissance. We see how this fermentation has been continued in the political movements of the middle of the seventeenth century, and we note the influence of the European upheaval at the end of the eighteenth century. The extraordinary outburst of intellect in the second half of that century is

accentuated by the fact that, taking into account all entries in the *Dictionary*, the gross number of eminent men of the low standard required for inclusion shows little increase in the eighteenth century (5,789, as against 5,674 in the preceding century, is the editor's estimate); the increase of ability is thus in quality rather than in quantity. It is curious to note that, throughout these eight centuries, a marked rise in the level of intellectual ability has very frequently, though not invariably, been preceded by a marked fall. It is also noteworthy that in every century, from the eleventh to the eighteenth, with the exception of the seventeenth, the majority of its great men have been born in the latter half; that is to say, that the beginning of a century tends to be marked by an outburst of genius, which declines through the century. Omitting the nineteenth century, 487 persons were born in the second halves of the centuries, and only 323 in the first halves. This outburst is very distinct at the beginning of the nineteenth century, and, as we have seen reason to believe, it was probably succeeded by an arrest, if not a decline, in the production of genius. It would seem that we are here in the presence of two factors: a spontaneous rhythmical rise and fall in the production of genius, so that a period of what is

improperly called "decadence" is followed by one of expansive activity; and also, at the same time, the stimulating influence of great historical events, calling out latent intellectual energy. These considerations, however, are merely speculative, and it is sufficient to accord them this brief passing notice.

It is noteworthy that the progress of European ability generally, as illustrated by Professor Cattell's results, has followed very much the same curve as I have found in the case of British genius. "Following the extraordinary development of the two nations of antiquity," Professor Cattell writes, summarising his own diagrams, "we have a decline, not sudden, ... but the light fails towards the fifth century. The curve shows a rise towards the tenth century, increasing in rapidity as it proceeds. There are three noticeable breaks. Thus in the fourteenth century there was a pause followed by a gradual improvement and an extraordinary fruition at the end of the fifteenth century. There was a pause in progress until a century later. The latter part of the seventeenth century was a sterile period, followed by a revival culminating in the French revolution." For Europe generally, as for Great Britain, the latter half of the eighteenth century represents the unquestionable climax of genius, 238 individuals belonging to the eighteenth century altogether as against less than one hundred for the previous century. Professor Cattell's curve also shows the same general tendency for genius to become productive towards the end of each century, with the same very

marked exception in the case of the seventeenth century, the fall here, Pofessor Cattell finds, extending to nearly every department of intellectual ability. In England we might have been tempted to attribute the fall to the social disturbance caused by the Civil Wars, but since it was a general European phenomenon (except in Germany, where the eighteenth century expansion began earliest) this is impossible; it represents a period of rest between the unparalleled activity of the late sixteenth and early seventeenth century, and the still more unexampled intellectual energy of the eighteenth century.

When the list of eminent persons had at last been completed my task had still scarcely begun. It was my object to obtain as large a mass as possible of biological data—anthropological and psychological—so that I could deal with these persons of eminent intellectual ability as a human group and compare them with other human groups, normal and abnormal. I had, somewhat too innocently, assumed that the national biographers would usually be able to furnish the elementary data I required, whenever such data were extant. I soon realised, however, that the biographers were, with a few notable exceptions, literary men, unfamiliar with biological methods, and that they had seldom realised that biography is not a purely literary recreation, and that it demands something more than purely literary

aptitudes. Method was, for the most part, conspicuously absent; if, for instance, one wished to know if an eminent man had or had not been married, it was frequently necessary to read through the whole article to make sure that one had not missed a reference to this point; when found, one was still left frequently in doubt as to whether or not there had been offspring of the marriage, and when no reference to marriage could be found one was left in doubt as to whether this meant that there had been no marriage, or that the point was unknown, or simply that the biographer had forgotten to refer to the matter. This failure of precision in regard to so elementary a biographical fact introduced into the consideration of a very important matter a margin of error which I have had much difficulty in controlling, and it still remains considerable. Again, much trouble has been caused by the persistent vagueness of the biographers in describing the eminent man's position in his father's family. There is distinct interest in knowing the size of the family from which the great man sprang and his precise position in that family; but the biographers, in possibly the majority of cases, use such expressions as "eldest son," "second son," "youngest son," which tell us almost nothing. A brief personal description of

the eminent man, once more, is always very instructive for biological purposes, and when the great man lived several centuries ago the biographer is usually careful to reproduce any scrap of information bearing on this point. But no such care is shown in the case of the more modern persons concerning whom the information obtainable is still copious, and even when the biographer has personally known his subject he omits, almost as a rule, to give any information regarding his personal appearance. These and the like imperfections might easily have been avoided, and the value of the *Dictionary* immensely increased, had the editors adopted the fairly obvious device of issuing a few simple instructions to their fellow-workers on the question of method.

The greatest part of my labour has been due to these defects of the *Dictionary of National Biography* in respect of those biological data which necessarily form the central and most essential part of biography. In order to supplement the information furnished by the *Dictionary* I have consulted over three hundred biographies, as well as many other sources of information in memoirs, personal reminiscences, etc. In regard to some of the more recent persons included I have been able to fill in various facts from my

own knowledge. As concerns eye and hair colour I have made a systematic examination of several picture galleries, more especially the National Portrait Gallery.

Having thus explained the nature of the data with which we have to deal, and the methods by which it has been obtained, we may now proceed, without further explanations, to investigate it. We have to study the chief biological characteristics—anthropological and psychological—of the most eminent British men and women of genius, here using that word merely to signify high intellectual ability.

II

NATIONALITY AND RACE.

The determination of place of origin—Birthplaces of grandparents the best available criteria—Relative productiveness in genius of England, Wales, Scotland and Ireland—The group of mixed British origin—The group of mixed British and foreign origin—Importance of the French element—Origins of eminent British women—The distribution of English genius according to counties—The genius of Kent—The regional distribution of English women of ability—The probable predominance of Norfolk and Suffolk in relative amount of ability—The three great foci of English genius—The East Anglian focus—The apparent poverty of London in aboriginal genius—The south-western focus—The Welsh Border—The Anglo-Danish district—The psychological characteristics of East Anglian genius—The characteristics of the South-western focus—The characteristics of the Welsh Border—The significance of the position of Kent—The distribution of genius in Wales—The distribution of genius in Scotland—The distribution of genius in Ireland—The regional distribution of various kinds of ability—The distribution of scientific ability—The regional variations of scientific aptitude—The distribution of eminent soldiers—The distribution of eminent sailors—The distribution of artists—The distribution of dramatic ability—The possible modification of racial factors by environmental conditions.

IT is scarcely necessary to remark that nationality and race, when used as distinguishing marks of people who all belong to the British Islands, are not identical terms and are both vague.

The races—however we may describe them*—constituting the people of Great Britain are to be found in all the main divisions of the two islands, and the fact that a man is English or Scotch or Irish tells us nothing positive as to his race. Some indication of race, however, is in many cases furnished if we know the particular district to which a man's ancestors belonged, and this indication is further strengthened if we can ascertain his physical type.

In determining on a large scale the place of origin of men of genius the usual method hitherto has been to adopt the crude plan of noting the birthplace. I have so far as possible discarded this method, for a man's birthplace obviously tells us nothing decisive as to his real place of origin.

It has seemed to me that a man's place of origin can most accurately be determined by considering the districts to which his four grandparents belonged. If we know this we know with considerable certainty in what parts of the country he is really rooted, and in many cases we can thus form an estimate of his probable race. I have expended a very considerable amount of time and trouble over this part of

* For an admirable and lucid summary of the present position of this question, see Ripley's *Races of Europe*, ch. xii.

my enquiry; yet so vague, confused, or conflicting is often the available evidence that probably none of my groups of data contain so many slight inaccuracies as this. It is only in a very small proportion of cases (even when the information derived from the *Dictionary* is supplemented) that I have been able to determine the origins of all four grandparents; I have usually considered myself fortunate when I have been able to tell where the father and mother came from, and have often been well content merely to find out where the father came from. Only in a few cases have I admitted the evidence of birthplace.* London as a birthplace has been ignored altogether. When the facts are available it is nearly always found that the parents had migrated to London; we may reasonably assume that this is probably the case when the facts are not available. It very rarely occurs (as in the case of J. Bentham) that even one grandparent belonged to London.

In order to represent the varying values of this evidence, I have adopted a system of marks. If the four grandparents are of known origin, an eminent man is entitled to four marks, these

* This evidence varies in value; in the case of an eminent person whose father was a farmer it is fairly acceptable; but if the father was a clergyman it has little or no value.

marks being divided among the counties to which he belongs; when the evidence is less explicit the marks are correspondingly diminished. By this method I am able to give due weight to the very numerous cases in which the parents (or grandparents) belonged to different parts of the kingdom.

Every one of the 1,030 persons included in this inquiry may be definitely classed, with at all events a fair degree of probability, in one part or another of the British Islands. When this is done we obtain the following results:

English	659
Welsh	28
Scotch	137
Irish	63
Mixed British	97
Mixed British and Foreign	46

Omitting for the moment the individuals of mixed ancestry, we find that 74.2 per cent. are English, 3.1 Welsh, 15.4 Scotch and 7.1 Irish. If we take the basis of the present population and regard the proportion of eminent persons produced by England as the standard, Wales has produced slightly less than her share of persons of ability, Ireland still less, and Scotland decidedly more than her share.

As regards Wales we have to bear in mind the difficulty of a language not recognised as a medium of civilisation. As regards Scotland we probably have to recognise that intellectual aptitudes are especially marked among the Scotch, and also that the tendency has been fostered by circumstances, since, as is well known, the lowland Scotch are almost identical in racial composition with the northern English, and there are no artificial barriers of language. On the other hand, the Irish have been seriously hampered by geographical and to some extent by linguistic barriers, as well as by unfortunate political circumstances, in contributing their due share to British civilisation.

Mr. A. H. H. Maclean has shown (*Where We get Our Best Men*, London, 1900) that of some 2,500 British persons of ability belonging to the nineteenth century 70 per cent. are English, 18 per cent. Scotch, 10 per cent. Irish, and 2 per cent. Welsh. We thus find that, by taking a much lower standard of ability and confining ourselves to the most recent period, Scotland stands higher than ever, while Ireland benefits very greatly at the expense of both England and Wales. This is probably not altogether an unexpected result. It is on the whole confirmed by an analysis of British *Men of the Time*, made by Dr. (now Sir) Conan Doyle (*Nineteenth Century*, Aug., 1888).

Both Mr. Maclean and Sir Conan Doyle adopted

marks being divided among the counties to which he belongs; when the evidence is less explicit the marks are correspondingly diminished. By this method I am able to give due weight to the very numerous cases in which the parents (or grandparents) belonged to different parts of the kingdom.

Every one of the 1,030 persons included in this inquiry may be definitely classed, with at all events a fair degree of probability, in one part or another of the British Islands. When this is done we obtain the following results:

English	659
Welsh	28
Scotch	137
Irish	63
Mixed British	97
Mixed British and Foreign	46

Omitting for the moment the individuals of mixed ancestry, we find that 74.2 per cent. are English, 3.1 Welsh, 15.4 Scotch and 7.1 Irish. If we take the basis of the present population and regard the proportion of eminent persons produced by England as the standard, Wales has produced slightly less than her share of persons of ability, Ireland still less, and Scotland decidedly more than her share.

the English-Irish group stands, even absolutely, above the English-Scotch group, while the English-Welsh group is still more largely out of proportion with the small pure Welsh group, and is not far behind the English-Scotch group. It would appear that, so far as ability is concerned, the Irish and the Welsh are much better adapted for crossing with the English than are the more closely related Scotch.

There are forty-six persons in whom one or more elements of foreign blood are mingled with one or more British elements. These do not, of course, include all the foreigners who have played a part in English civilisation, since no person of purely foreign blood was taken into account in the preparation of my list. This has, for instance, led to the omission of numerous early Normans (like Beckett), some later French Huguenots (like Romilly), and several eminent Jews.

Even though the purely French persons of eminence are omitted, the French elements remain distinctly the most important. At least seventeen of our forty-six individuals of partly foreign origin have had a French parent or grandparent. Some of these were Huguenots. No account has been taken of ancestors beyond the grandparents, but a Huguenot ancestral element seemingly more remote than the grandparents is

certainly of very frequent occurrence; I have noted it in seventeen cases, and it certainly occurs much oftener. Other remote Huguenot elements (especially Walloon, Flemish and Dutch) occur with only less frequency. German parents and grandparents only occur ten times; the Dutch and Flemish, occurring eight times, are but little behind, while five of our eminent persons were partly Italian. The exact combinations, with the number of times of their occurrence, are as follow:—

English and French . . .	12
English and German . . .	8
English and Dutch . . .	5
English and Italian . . .	3
English and Flemish . . .	2
Scotch and French . . .	2
English, Irish, French and Swiss .	2
English and Russian . . .	1
English and Danish . . .	1
English, Irish and German . .	1
Irish and French	1
Irish and Italian	1
Irish and Spanish	1
English, Irish and Italian . .	1
Scotch and Dutch	1
Irish and Austrian	1

English, Scotch and German . .	1
Welsh and Swiss	1
Welsh and Italian	1

There is much interest in considering separately the places of origin of the 55 eminent women on our list. Of these 29 are English, 4 Scotch, 4 Irish, and 18 of mixed origin. The obvious points to note here are the very remarkable prevalence of women of mixed race (in the proportion of 32 per cent. instead of only 13 per cent. as in the case of our eminent persons generally), and the rise of Ireland to equality with Scotland. When we analyse the eighteen mixed cases the same prevalence of the Irish element appears in a very much more marked form. The various mixtures are as follows :—

English and Irish . . .	8
English and Scotch . . .	2
English and Welsh . . .	2
English and French . . .	2
English and Italian . . .	1
English, Irish and German . .	1
English, Irish and Italian . .	1
English, Irish, French and Swiss .	1

Here we see that while an English element enters into every combination, in not less than

eleven of the eighteen cases it is combined with an Irish element. The Scotch element reaches no higher a level than the Welsh and is even inferior to the French. Among our eminent persons generally not more than one in fifteen is Irish; among the eminent women more than one in four is Irish, while Scotland, which has produced relatively the largest share of eminent men, has produced relatively the smallest share of eminent women.

So far we have been concerned solely with the distribution of our eminent ability in the main divisions of the United Kingdom. There is, however, much interest in determining the distribution of ability within these main divisions. The obvious, and indeed the inevitable, basis for this part of the inquiry is the division into counties. It is, however, a very awkward and inconvenient basis. The counties are very unequal in size, usually too small, and in most cases they correspond to no ancient boundaries. They have neither the historical significance of the ancient French provinces, nor the practical convenience of the modern French departments. The ancient English dioceses furnish on the whole a better basis and one that for the most part corresponds to real ancient divisions;* but it was obviously

* See e.g. G. Hill, *English Dioceses.*

inconvenient and inadvisable to fall back on an extinct division of the country. It was necessary to be content with the county basis and to seek so far as possible to minimise its disadvantages.

In the first place the English counties may be presented in accordance with the absolute number of elements of ability which each possesses, with no attempt to show the significance of the numbers. It will, of course, be remembered (and may be clearly seen by reference to Appendix B) that in consequence of the imperfection of our knowledge these elements are of disparate value, so that while one individual may be counted four times (*i.e.*, once for each of his grandparents), another may only be counted once. Most individuals are counted twice.

Yorkshire	90
Norfolk	67
Devon	56
Kent	51
Suffolk	50
Lancashire	43
Lincolnshire	37
Somerset	30
Cornwall	30
Gloucestershire	28

Essex	27
Warwickshire	26
Shropshire	24
Staffordshire	24
Wiltshire	24
Northumberland	20
Worcestershire	20
Derbyshire	19
Cheshire	19
Dorset	19
Hampshire	19
Buckinghamshire	19
Northamptonshire	18
Hertfordshire	18
Herefordshire	17
Oxfordshire	16
Cumberland	16
Nottinghamshire	16
Leicestershire	15
Cambridgeshire	15
Surrey	14
Westmoreland	11
Sussex	10
Durham	8
Bedfordshire	8
Berkshire	8
Rutland	6
Middlesex	5

Huntingdonshire . . .	5
Monmouth	3

The significance of these results is not quite obvious to casual inspection. We see that the origins of English ability are to be found all over the country, and we see also, as we should expect, that the large counties have produced much ability and the small counties little. How can we ascertain the real significance of these figures?

There are two methods we may adopt for ascertaining the significance of our figures: we may determine the amount of ability in each county in relation to its area, or we may determine it in relation to its population.

The method of comparison which rests on ascertaining the relative amount of ability per square mile for each county is not so absurd in the case of a country like England as it may possibly seem at the first glance. To compare the ability per square mile of a county like present-day Lancashire, covered with great towns, to an agricultural county like present-day Norfolk or Suffolk, would be obviously unfair to the latter. But we may remember that East Anglia was a populous manufacturing centre for many centuries during which Lancashire resembled modern Cumberland. During the long history of England

the various counties have passed through many economic vicissitudes, and while some have doubtless succeeded in remaining throughout at a fairly medium level of populousness, others have at some periods been great centres of population, and at other periods denuded of their inhabitants.* Thus when we put one period against another the differences between the counties in average density of population are probably small, and it is by no means so absurd to ascertain the relative amount of ability per square mile for the whole period as it would be for a single century.

An even approximate determination of the amount of ability in relation to the population is obviously impossible for the whole period; we can only obtain it with certainty for the nineteenth century. I have thought it of some interest, and probably of real significance as an aid to determining the problem before us, to consider separately the eminent persons born during the nineteenth century (nearly all in the first half), and to determine what relation the elements they supply us with bear to the population of the various counties as

* The Poll-tax returns for the 14th century (as reproduced, *e.g.*, by Edgar Powell, *The Rising in East Anglia in 1381*, Appendix I., pp. 120 *et seq.*) seem to indicate that, absolutely, Yorks, Norfolk, Suffolk, Somerset and Lincoln were at that time the most populous counties.

revealed by the census of 1841.* The basis of comparison seems here to be fairly sound, though unfortunately the numbers for each county are necessarily so small that we cannot consider the results as absolutely conclusive when they are not otherwise confirmed.

It must be added, further, that there is another source of error the existence of which probably might not be suspected. Apart altogether from its rise and fall in population a county may still exhibit a very marked fluctuation in its genius-producing power. A very interesting and decisive example of this is furnished by Kent. On account of its proximity to the continent Kent has from the earliest periods been a highly civilised county, and it has always been a populous one; it remains a populous and flourishing county at the present day. It has also been, as we shall see, very prolific indeed in genius. Yet at the present day its ability-producing powers have almost ceased. It is associated, perhaps more than any other county, with the Renaissance in England; Caxton belonged to Kent; it was the home of Marlowe and Lyly, the two teachers of Shakespeare, as well as of Linacre and Harvey, who represent the English Renaissance on the scientific

* I selected this census as it was convenient to use Fletcher's statistical analysis of its results.

side; at that period it was prolific in administrators, diplomatists, and soldiers. It was strongly Royalist, and suffered greatly in the cause of Charles I. When Charles fell, Kent fell so far as genius-producing power is concerned,* and however it may continue to flourish in population and general prosperity, it has never regained its power to add largely to English ability. In the sixteenth and seventeenth centuries its contributions to the elements of English ability are represented by the figures 15 and 16 respectively—relatively a very large proportion—but in the eighteenth century, so fertile in ability, Kent is only responsible for the relatively small contribution of eleven elements, and in the nineteenth century its contribution has sunk to four elements, which do not include a single individual who was wholly Kentish. Yet, as we shall see, Kent stands almost, if not quite, at the head of all the English counties in its total contribution to English genius. Although no other county could be found to furnish so remarkable an instance of great intellectual fertility followed by intellectual decadence, without decrease in population and

* It cannot be said that this coincidence adequately explains the phenomenon. Dr. Beddoe suggests to me that the decline of Kent may be largely due to the attraction of London draining away its best stocks, and that we may thus account for the fact that Surrey, Essex, and even Suffolk, stand lower in genius-producing power for the nineteenth century than for the whole period.

prosperity, this case is enough to show that we can by no means assume that the intellectual fertility of a county in one century is any certain index to its general intellectual fertility.

I now present, side by side, the order of decreasing intellectual fertility into which fall the counties our eminent men belong to when we consider the relative amount of the total ability for the whole period on the basis of area (taken as per 1,000 square miles), and also the order into which the elements for the nineteenth century fall on the basis of the population of the counties in 1841. A plus sign after the figures in the first column indicates that as the modern population of the county in question is very decidedly below the average for the country generally, we probably ought to add a few units to the figures given; a minus sign indicates that as the modern population is much above the average for the country generally, we probably ought to subtract a few units to reach a fair estimate; the sign of equality means that the population of the county approximates to the average for the country generally. Those counties which contain a proportion of elements of genius equal to more than 19 to the 1,000 square miles, or more than 2 per 100,000 inhabitants, must be considered prolific in genius.

	Amount of ability in ratio per 1,000 square miles.		Amount of ability during nineteenth century in ratio per 100,000 inhabitants (1841).
Rutland	40+	Norfolk	5.3
Suffolk	33+	Herefordshire	4.3
Kent	32—	Oxfordshire	4.3
Norfolk	31+	Hertfordshire	3.8
Warwickshire	29—	Worcestershire	3.8
Hertfordshire	28+	Westmoreland	3.6
Worcestershire	27—	Dorsetshire	3.4
Buckinghamshire.	25+	Cumberland	3.4
Cornwall	22+	Warwickshire	2.7
Gloucestershire	22=	Cornwall	2.6
Lancashire	22—	Buckinghamshire	2.5
Devonshire	21+	Shropshire	2.5
Oxfordshire	21+	Northumberland	2.4
Herefordshire	20+	Wiltshire	2.3
Staffordshire	20—	Cambridgeshire	2.3
Nottinghamshire	19+	Lincolnshire	2.2
Dorsetshire	19+	Suffolk	2.1
Northamptonshire	18+	Nottinghamshire.	2.0
Leicestershire	18+	Berkshire	1.8
Somerset	18+	Devonshire.	1.5
Shropshire	18+	Yorkshire	1.5
Cambridgeshire	18+	Derbyshire	1.4
Derbyshire	18=	Cheshire	1.2
Surrey	18—	Gloucestershire	1.2
Cheshire.	18—	Hampshire	1.1
Essex	17+	Leicestershire	.9
Wiltshire	17+	Somerset	.9
Bedfordshire	17+	Lancashire	.8
Middlesex	17	Staffordshire	.8
Westmoreland	14+	Essex	.8
Yorkshire	14=	Kent	.7

	Amount of ability in ratio per 1,000 square miles.		Amount of ability during nineteenth century in ratio per 100,000 inhabitants (1841).
Huntingdonshire	13+	Sussex	.4
Lincolnshire	13+	Surrey	.3
Berkshire	11+	Durham	.3
Hampshire	11+	Bedfordshire	0
Cumberland	10+	Northamptonshire	0
Northumberland	9+	Huntingdonshire	0
Sussex	7+	Monmouth	0
Durham	7—	Rutland	0
Monmouth	5+	Middlesex, omitted*	

If we consider the eminent women separately we find that eleven English counties have produced more than one unit of ability. The absolute numbers are as follow :—

Norfolk	9
Suffolk	5
Yorkshire	4
Hereford	3
Kent	3
Northumberland	3
Lancashire	2
Worcestershire	2
Shropshire	2
Devonshire	2
Cornwall	2

* There are three units to Middlesex, but not having the population for Middlesex in 1841, excluding the metropolis, I have not included this county.

The numbers are too small to make it worth while to attempt to ascertain the relative value of these figures. It is sufficiently clear that Norfolk stands first and that Suffolk, a much smaller county, follows very closely after.*

Although the estimate of ability on the basis of the area of the counties is obviously only roughly approximate, while the more reliable method of ascertaining the proportion to population during the nineteenth century suffers from the defect that it by no means necessarily indicates the amount of ability in previous centuries, and while both methods are hampered by the very small size of many of the counties, we may still reach certain conclusions by considering the two lists together. The counties that stand high on both lists have probably been highly productive of intellectual ability; those that stand low in both lists have probably been markedly unproductive. We may probably believe that the counties that have contributed most largely to the making of English men of genius are Norfolk, Suffolk, Hertfordshire, Warwickshire, Worcestershire, Herefordshire, Buckinghamshire, Cornwall, Dorsetshire, Oxfordshire, and Shropshire. To these we must

* Conan Doyle in his analysis of *Men of the Time* found that "Suffolk appears to be pre-eminently the county of famous women." I believe that this result is quite correct when we adopt a somewhat lower standard of ability than I have here adopted.

certainly add Kent, since its total output more than compensates for its intellectual decadence during recent centuries; but we are perhaps scarcely justified in including Rutland, which by a curious anomaly appears at the head of the first list, though the smallest and one of the most thinly populated of English counties.

It cannot hastily be assumed that, while these counties rank probably at the head of English counties from the intellectual point of view, there are not others which perhaps on a perfectly sound basis ought not to rank almost on a level with them. This would especially be so if we were to take quality of genius as well as quantity into consideration. It is probable that Somerset, Devonshire, Gloucestershire, Wiltshire and Essex should be included among those of the first rank, although the two associated East Anglian counties of Norfolk and Suffolk have a fairly assured position at the head.

It will be noted that the results here reached in regard to the distribution of ability amongst the English counties involve a very high, if not indeed the highest, place for Suffolk. Possibly the reader may be inclined to view this conclusion with suspicion should he chance to learn that the present writer, though having no personal connection with this county, happens to have been ancestrally connected with Suffolk during many centuries. Personally, I hope, I have no sympathy

with the bias of patriotism, for I recognise that (however useful sometimes in practical affairs) it is an unfailing sign of intellectual ill-breeding; but there is always a temptation to view with suspicion (which is often indeed justified) any investigation of the present kind as probably affected by local patriotism. It may therefore be proper to assist the reader to reach a personal equation in this case by stating that the present writer was born in Surrey and that his heredity may be expressed in the formula: Suffolk-Hampshire: Durham-Suffolk. It may be added that while I had not anticipated the high place which Suffolk would take as a contributor to British ability, that position is to some extent supported by the results of other impartial inquiries. Thus Mr. Maclean finds that Suffolk is among the six English counties which on the basis of population contributed the largest number of eminent men to the Victorian period, and places Ipswich first among the towns (excluding the large cities) which have been prolific in ability. Sir Conan Doyle, investigating *Men of the Time*, finds that Suffolk is among the three English counties that stand first in production of intellectual ability on the basis of population, and remarks that its intellectual productivity is "quite phenomenal."

It must be rememberd that these inquiries were on the basis of birthplace, and that as East Anglians show a marked tendency to emigrate westwards, and especially to London, in a large number of cases they are credited to other districts.

On the basis of these results, and taking into consideration also the special quality of the indi-

viduals (as may be done by studying Appendix B), we come, I believe, to the conclusion that there are two, or, rather, three, great foci of intellectual ability in England: the East Anglian focus, the south-western focus, and the focus of the Welsh Border.

The East Anglian focus may for the present purpose be said to include not only Norfolk and Suffolk, but also the adjoining counties of Essex, Cambridgeshire and Hertfordshire, which, though inferior both in the quantity and the quality of their genius to East Anglia proper, are still high in intellectual ability which is nearly always of distinctively East Anglian type; these five counties form a compact whole. Among the eminent men who, so far as our knowledge, sometimes limited, extends, belong wholly to this region are Bishop Andrewes, the Bacons, Thomas Cavendish, Chaucer (?), Constable, Cotman, Cowper, Cranmer, Flaxman, John Fletcher, Gainsborough, William Gilbert, Grosseteste, the Lyttons, Nelson, the Newmans, Porson, Pusey, Ray, the Veres, Robert Walpole and Wolsey. Among those who belong in part to this region are Airy, the Arnolds, Barrow, Bradlaugh, Colet, Gresham, Stephen Hales, Charles Lamb, the Martineaus, Sir Thomas More, Pater, Sir Thomas Smith and Walsingham. Ethnologically, it may

be remarked, this focus is the most recent of the three. East Anglia is a region very open to invasion; Brythons, Romans, Angles, and Normans all seem to have come here in large numbers; and it differs from every other English district (except to some extent Kent, a county closely allied to it) in continuing to welcome foreigners—Dutch, Flemish, Walloon, French—all through mediæval times, down to the revocation of the Edict of Nantes at the end of the seventeenth century.

Middlesex with London lies on the borders of the East Anglian focus, with which, probably, of all the foci of English genius it is most intimately connected. It can scarcely, however, be included within that focus. The Metropolis itself is excluded from our enquiry, partly because we are not taking the accident of birth-place into account, and partly because it seems impossible to find any eminent person who belongs to London, or even to Middlesex, through all his grandparents. Middlesex is poor in aboriginal ability, even for a small county, and if we were to class it psychologically at all I believe it would fall in with the predominantly Saxon group of counties which includes Berkshire, Surrey, Sussex and Hampshire—a group which,

as we shall see, constitute a district remarkably poor in aboriginal ability.

The marked prevalence of merely native ability in London, and the marked deficiency of really aboriginal ability, are phenomena alike easy of explanation. Among the crowds who drift into every great metropolis there are always many clever and ambitious people; hence the number of able persons who are merely connected with a metropolis by the accident of birth. But a great metropolis swiftly kills those whom it attracts; Cantlie (*Degeneration amongst Londoners*, 1885, p. 19) very properly defined a Londoner as one whose parents and grand-parents were born and bred in London; but during the four years in which he investigated this question he was unable to find a single Londoner in this true and definite sense, and even those who were Londoners back to the grandparents on one side only, were usually stunted or feeble, and unlikely to propagate. Dr. Harry Campbell (*Causation of Disease*, p. 245) among 200 London-born children found two or three whose parents and grandparents were born and bred in London, and these children were very delicate.

The south-western focus of English genius is the largest, and although in proportion to the population ability is here less prevalent than in the East Anglian district, in absolute amount, and perhaps even in importance, this region may perhaps be said to be the most conspicuous centre of English intellectual energy. I regard it as comprising the counties of Wiltshire,

Somerset, Dorset, Devon, and Cornwall. These counties, together with part of Hampshire, make up the whole of the south-western promontory of Great Britain. The population of this region is marked by very much darker hair, and therefore a much higher index of nigrescence, than the population of the counties to east of it. The district is defended by Wansdyke and Bokerley Dyke, one of the most important structures of this kind in Europe, and this fact indicates that the region was once arrayed against the rest of Britain. Pitt-Rivers* has shown that this wall is of Roman or post-Roman date, possibly Saxon. This great focus of British genius is, taken altogether, unquestionably the oldest of the three foci which we may detect in England. We may call it the Goidelic-Iberian centre. It is well known that this region was the last stronghold of the early British power in England; when, finally, its power was broken in war the Saxon invaders had become Christianised and settled peacefully side by side with the aboriginal inhabitants. The people of this region were still described by King Alfred as "Welsh Kin," and the predominance of the aboriginal element may still be detected in the characteristics of the genius of this region.

* *Excavations in Cranborne Chase*, Vol. 3.

Among the more eminent individuals who seem to belong wholly to this region are Roger Bacon, Blackstone, Robert Blake, St. Boniface, Clifford, Coleridge, Dampier, Drake, St. Dunstan, Ford, Grocyn, Hawkins, Hobbes, Hooker, John of Salisbury, Keats, Locke, Pym, Raleigh, Reynolds, Rodney, Alfred Stevens, Sydenham, Trevithick, Thomas Young. Among those who belong to it in part are Matthew Arnold, Bradley, Browning, Byron, the Cannings, Fielding, C. J. Fox, Froude, the Kingsleys, Huxley.

The third focus, that of the Welsh border, includes the counties of Gloucestershire, Warwickshire, Worcestershire, Herefordshire, Shropshire, and Cheshire. This selection of counties may possibly seem a little arbitrary, but it will be found not to be so on turning to the anthropological map of the British Islands (as given, for instance, in Ripley's *Races of Europe*), founded on Beddoe's observations of the index of nigrescence. These six counties form a dark-haired borderland in western England against Wales, and the eastern infolding to Warwickshire cannot be disregarded.* Monmouth is properly

* There is a curious and compact island of very dark-haired peoples in the counties to the north of London, possibly connected with the Warwick infolding of the Welsh Border, but any psychological affinity of the inhabitants of these counties with those of the Welsh Border does not seem to be clear, though it is possible.

excluded; its contribution to English genius is extremely minute; it was not even nominally English until the time of Henry VIII.; it still remains anthropologically Welsh, and the study of its surnames shows, as Guppy states in his *Homes of Family Names*, that it is even more Welsh than Wales. The counties here included in the Welsh Border are all much more thoroughly Anglicised, but Welsh was spoken in most of them until comparatively recent times, even in Gloucestershire, undoubtedly a very mixed county.* The language of Shropshire has been described as "English spoken as a foreign language." In Herefordshire Welsh appears to be not quite extinct even yet.† The whole of the district represents the mingling on the one side of Welsh elements, on the other of Saxon and Anglian elements. It is not difficult to account for this mingling; when in the eighth century Offa extended the limits of Mercia westwards, changing the name of the British town of Pengwyrn to Shrewsbury, he adopted the policy of leaving on the land all the Britons who wished to remain;

* "The Transsabrina is very 'aboriginal' and dark-haired," remarks Dr. Beddoe; "the Cotswolds are largely Saxon and fair; the Vale lies between in race as in position."

† Rhys and Brynmor-Jones, *The Welsh People*, p. 526; cf. Southall, *Wales and Her Language*, especially ch. ix. dealing with traces of Welsh in the Marches.

in more recent times there has been a Welsh reflux eastwards, and the result is a fairly thorough assimilation of Welsh and English racial elements. The Welsh elements we must certainly regard as predominantly Brythonic rather than Goidelic, the latter people being mainly confined to the north-west and south-west districts of Wales. It may therefore be said that this Anglo-Brythonic district of the Welsh Border is intermediate in age between the recent East Anglian focus and the ancient south-western focus.*

Among the more eminent individuals who belong wholly to the Welsh Border are Alexander of Hales, Samuel Butler, Warren Hastings, Sir Thomas Lawrence, Shakespeare, Purcell, William Tyndale and Wycherley. Among those who belong to it in part are Robert Boyle, John Bright, Sir Thomas Browne, Clive, Charles Darwin, Fielding, Keble, the Herberts, the Kembles, Landor, Macaulay, Map, William Morris, the Penns, Wedgwood, the Wesleys, Wren, Wycherley.

It will be noted that all three of the great foci of English intellect belong mainly to the southern half of the country, the most anciently civilised

* It is well recognised that the Goidels, the earlier Celtic invaders of Britain, ultimately mingled with the dark Iberian aboriginals, so losing the characteristic Celtic fairness. The Belgic invaders, the Brythonic Celts, came later and are nearly always found eastward of the Goidelic-Iberian populations.

part, although within recent centuries the least prosperous and the most thinly populated. It must be added that nearly the whole of the northern part of England from Lincolnshire, Nottinghamshire and Derbyshire, through Yorkshire well on into the Lowlands of Scotland, constitutes a large region which, although its intellectual elements are of no great density, presents its own peculiar anthropological characters. It is the predominantly Anglo-Danish part of England, containing the fairest population of the country.* Its intellectual fertility is greatest in its northern portions, which now form part of Scotland, and at its southern border, where it blends with East Anglia. To this last district belongs Sir Isaac Newton, the supreme representative of Anglo-Danish genius.†

* Leicestershire should doubtless be included in the Anglo-Danish district. On the basis of place-names Taylor finds it to be the most Danish county in England. Beddoe's map of the index of nigrescence, however, shows it to be ethnologically darker than the Anglo-Danish district proper. Psychologically its genius seems to me rather mixed but certainly in large measure Anglo-Danish.

† I was formerly inclined to think that Lincolnshire and Nottinghamshire should be affiliated to the East Anglian focus, but a more careful consideration of the facts leads to the conclusion that, on the whole, both anthropologically and psychologically they belong to the Anglo-Danish district. I still think that the northern portion of Northamptonshire, and still more emphatically Rutland, are mainly East Anglian in the character of their genius. The former county, however, seems to present a very special and vigorous mixture of East Anglian, Anglo-Danish and aboriginal elements. It is not easy to fix the exact western limits of the East Anglian district unless we boldly carry it as far as the Welsh Border counties, Warwickshire and Gloucestershire.

Apart from exact science and from scholarship, the Anglo-Danish district, in proportion to its size, has not produced many men in purely intellectual fields. Its children have usually been more remarkable for force of character than for force of intellect. Their stubborn independent temper involves an aptitude for martyrdom; many religious martyrs come from this region, and the martyrologist Foxe also. East Anglia is productive of great statesmen and great ecclesiastics; it is also a land of great scholars. At the same time nearly half the British musical composers and more than a third of the painters have come from this same region. It has no aptitude for abstract thinking, for metaphysics, but in concrete thinking, in the art of treating science philosophically, it is easily supreme. Its special characters seem to be its humanity, its patience, its grasp of detail, its deliberate flexibility, combined with a profound love of liberty and independence.* The characteristic English love of compromise is rooted in East Anglia. So typically English a statesman as Walpole, with his sound instincts in practical affairs, belonged to

* It may be noted that the founders of New England, both on the political and the religious side, were largely produced by East Anglia. The Washingtons came from the related county of Northamptonshire; the Emersons were from Suffolk; Winthrop, who, it has been said, more than any other man moulded Massachusetts, which moulded New England, belonged to Central Suffolk.

Norfolk, and Wolsey belonged to Suffolk. In spite, however, of the marked sanity and self-possession of the East Anglian, it may be added that while East Anglia has produced many of the best Englishmen it has also produced a considerable proportion of the worst.* Those who figure in English history chiefly by virtue of their villainy do not appear in my list, but it is notable that many of the great men who have come down to us with a somewhat flawed reputation belong here; Bacon is a typical example of the first rank.

When we turn to the south-western focus of English genius we find ourselves among people of different mental texture, but of equal mental distinction. In positive intellectual achievement they compare with the slow and patient people of East Anglia, while as brilliant personalities they are in the very first rank. They are sailors rather than scholars, and courtiers, perhaps, rather than statesmen; they are innovators, daring free-thinkers, pioneers in the physical and intellectual worlds. Raleigh, on both sides a Devonshire man, is the complete type of these people. They are, above all, impressive persona-

* It must be added, at the same time, that the records of criminality, at all events during the nineteenth century, by no means show the East Anglian counties among the worst.

lities, aggressive, accomplished, irresistible, breaking rather than bending, without the careful foresight of the laborious and self-distrustful people of the east coast. This district alone has furnished a third of the great sailors of Britain, and the most brilliant group, with Drake and Hawkins and Gilbert as well as Raleigh. The expansive Elizabethan age gave the men of these parts their supreme chance, and they availed themselves of it to the utmost. Great Britain's most eminent soldiers have not usually been English, but one of the most famous of all, Marlborough, belongs to this region. In the arts of peace this south-western focus shows especially well in painting. It cannot, indeed, be compared to the East Anglian focus in this respect, but Reynolds belongs to Devon, and is a typical representative of the qualities of this region on the less aggressive side, just as Raleigh is on the more militant side, both alike charming and accomplished personalities. Both in the material and spiritual worlds there is an imaginative exaltation, an element of dash and daring, in the men of this south-western district, which seems to carry them through safely. The south-western focus is not quite so homogeneous as the eastern group. Somerset, which is the centre of the focus, seems to me to present its real and

characteristic kernel, especially on the purely intellectual side. We do not find here the dashing recklessness, the somewhat piratical tendency, nor quite the same brilliant personal qualities as at the western part of the peninsula. The Somerset group of men are superficially more like those of East Anglia, but in reality with a very distinct physiognomy of their own. Like the rest of this region, Somerset is a land of great sailors, but the typical sailor hero of Somerset is Blake, and the difference between Blake and Raleigh is significant of the difference between the men of Somerset and the men of Devon. Somerset has produced the philosophers of this region, Roger Bacon, Hobbes, Locke; and in more recent days Bagehot and Huxley have been typical thinkers of the group. Hooker, the "judicious," is among the men of Devon. They are not often scholars (notwithstanding the presence of the "ever-memorable" Hales), being prone to rely much on their own native qualities. One recalls the remark of Hobbes, when charged with an indifference to books: "If I read as much as other people I should know as little as other people." While less concrete than the East Anglians, these eminent thinkers have not the abstract metaphysical tendencies of the North British philosophers; they reveal a certain

practical sagacity, a determination to see things clearly, a hatred of cant and shams, a "positive" tendency, which is one of the notes of purely English thought and may be said to have its headquarters here. The representative scientific man of this region is the brilliant and versatile Thomas Young, whose luminous intelligence and marvellous intuition render him a typical example of genius in its purest form.

It is easy to define the nature of the genius of the Welsh Border. It is artistic in the widest sense, and notably poetic; there is a tendency to literary and oratorical eloquence, frequently tinged with religious or moral emotion, and among those who belong entirely to this district there are no scientific men of the first order. This region has the honour of claiming Shakespeare; and it may be pointed out that it is difficult to account for Shakespeare without assuming in him the presence of a large though not predominant Celtic element. Landor, one of the greatest of English masters of prose, comes in part within the Welsh Border, as does Fielding, while Purcell, the greatest of English musical composers, also probably belongs to this district. Sir Thomas Browne, though only a Welsh Borderer on his father's side, is very typical, and Macaulay is characteristic of the Celt as historian.

The presence of Mrs. Siddons, although the genius of the Kemble family is attributed mainly to their Irish mother, helps to indicate the characteristics of this region, which although it has produced fewer great personalities than the two main foci of English genius, has certainly had its full share in some of the very greatest. The part of the Welsh Border in Darwin was small, but though he was more characteristically a son of the Anglo-Danish and East Anglian regions, it was probably not without its influence.

It has already been made clear that the county of Kent constitutes a remarkable, though small, centre of English genius. I was formerly inclined to regard this very interesting district as dependent on the important East Anglian focus. I am convinced, however, that this is a mistake. If we carefully contemplate the eminent persons produced by Kent it will be seen that they can be more easily affiliated, on the whole, to the south-western than to the East Anglian focus. Harvey, for instance, the greatest of the Kentish men, resembled the south-western people as much in intellectual temperament, as, by his short stature, dark hair and eyes, choleric constitution, he resembled them anthropologically. This seeming affinity of the genius of Kent to that of the south-western promontory, though it cannot be

said to be complete identity, may perhaps be regarded as one of the numerous facts which tend to invalidate the belief, widely prevalent a few years ago under the influence of several eminent historians and ultimately resting on some rhetorical expressions of Gildas,* that the Romano-British inhabitants of Kent were entirely exterminated by the Teutonic invaders.

Undoubtedly, however, the Teutonic element is considerable in all this south-eastern part of England, as far westwards as Wilts. One is indeed tempted to ask whether it may serve to explain another psychological phenomenon which is revealed by the distribution of English genius. The Jutes came to Kent; the Saxons occupied the regions to the west of Kent. This district, including (with Kent and Essex) the whole of the light-haired populations of southern England, is occupied by the counties of Sussex, Surrey, Hampshire and Berkshire. Except in so far as Surrey is suburban to London and profits by this proximity, all this region is comparatively bare of aboriginal genius. Mackintosh observed, in his notable study of the psychic characteristics of British peoples, that the unmixed English

* Professor H. Williams, in his recent edition of Gildas (*Cymmrodorion Record Soc.* 1899, Part I.), points out that Gildas is not a historian, but a preacher of righteousness who is simply seeking to show how divine anger visits sin. Beddoe finds early elements persisting in the Kentish population.

Saxon, unlike the Angle (and possibly unlike the Jute), is marked by mental mediocrity. One is tempted to ask whether this fact, if it is a fact, may be invoked to explain the result of the present inquiry as regards this region.

I do not propose to consider in detail the distribution of ability in the other parts of the British Islands, for the figures are here too small to yield reliable results. The distribution of ability in Wales, Scotland and Ireland is, however, so definitely confined to certain districts that a mere inspection of the crude figures suffices to give us for each of these countries a fairly close conception of their intellectual geography.

In the case of Wales the elements of ability are distributed as follows :

Glamorganshire	7
Denbighshire	7
Montgomeryshire	6
Radnorshire	6
Flintshire	3
Carnarvonshire	3
Anglesey	3
Cardiganshire	1
Pembrokeshire	1
Merionethshire	1
Caermarthenshire	0

It is not difficult to understand why a large, fertile and populous district like Glamorganshire —even leaving out of account its commercial and mining activities—should stand high in actual numbers, although it stands lower in proportion to area and very low in relation to population. It is more remarkable that Caermarthenshire, the largest Welsh county, should show no traceable elements of genius. The really productive intellectual region of Wales is comprised in Denbighshire, Montgomeryshire and Radnorshire. This is a fact of some interest when we recall the ethnological history of this region. Wales is a Goidelic country (that is to say, a country inhabited by the earlier Celts mingled with aborigines), which appears to have been subsequently invaded by the Brythonic Ordovices ; these formed a wedge in the country reaching to Cardigan Bay, leaving the Goidels in the north-western district and (as we may still observe in the map founded on the index of nigrescence) in the south-western district. But later still—probably soon after the departure of the Romans—a very vigorous stock led by Cuneda and speaking a tongue very closely allied to Gaulish, came from what is now the south of Scotland, and established themselves in the centre of the Ordovician region, where their leaders became the acknowledged ancestors of

the Gwyned Kings and the best known Welsh saints.* Their land comprised Radnorshire, Montgomeryshire and the south-west of Denbighshire, which is precisely the land which we have found to be the focus of Welsh genius. It is very difficult not to see here one at least, and perhaps the chief, of the factors which have caused this comparatively unimportant and thinly peopled region to be so productive in ability.

In accordance with the comparative poverty of Wales in intellectual achievements during the earlier periods of subjection to England is the statement of Rhys and Brynmor-Jones (*The Welsh People*, p. 471) that "from the people as a whole hardly a voice comes during the centuries from the Norman Conquest to the middle of the eighteenth century. They tilled their land, attended to their flocks and their herds, married and died in complete obscurity, without being in any great degree touched by the intellectual movements of the sixteenth and seventeenth centuries." These authors have ably expounded the causes of the intellectual decadence of Wales during this long period.

The absolute figures of the ancestral elements of ability in Scotland are as follows :—

Midlothian	28
Aberdeenshire	26
Ayrshire	21
Lanarkshire	21

* J. Rhys and D. Brynmor-Jones, *The Welsh People*, 1900, p. 21.

Fife	15
Dumfriesshire	14
Forfarshire	12
Perthshire	9
Haddingtonshire	9
Ross-shire and Cromartyshire	8
Berwickshire	8
Stirlingshire	6
Argyleshire	5
Elginshire	4
Roxburghshire	4
Renfrewshire	4
Dumbartonshire	3
Sutherland	2
Orkney and Shetland	2
Kincardineshire	2
Inverness-shire	2
Nairnshire	2
Clackmannanshire	2
Selkirkshire	2
Wigtonshire	2
Banffshire	2
Kinross-shire	1
Buteshire	1
Caithness	1
Linlithgowshire	1
Peeblesshire	0
Kirkcudbrightshire	0

It will be seen that the genius of Scotland has been mainly produced by the tract between the Cheviots and the Grampians. While, however, the whole of this district is prolific in ability, a narrow central belt has proved pre-eminently able to breed men of intellect. This belt runs from Aberdeen in a south-westerly direction through Forfar, Fife, Midlothian, with the surrounding district, and Lanark (including Glasgow); on reaching Ayr and Dumfriess it widens out, not extending beyond the English border westward into Galloway. Aberdeen and Edinburgh have always been the two great centres of Scotch genius. If, however, we were to take into consideration the proportions of genius according to area and population of the various counties this geographical distribution would appear less decisively marked. The upland counties, whether in or out of the Highlands proper, appear poor in genius and the Lowland counties rich. But it must be remembered that the upland counties are also poor in population and the lowland counties rich. So far as a rough comparison of the total amount of genius with the recent population can be considered as any indication of the true distribution of genius in Scotland it would appear that both Aberdeen and Edinburgh really are very prolific in ability, and that Ayr,

Fife, and even Sutherland are little, if at all, inferior in intellectual fertility, while Haddingtonshire, Berwickshire, and Dumfriesshire would appear to stand probably at the head. It would seem that even on a population basis the dark-haired populations show a somewhat less intellectual fertility than the fair-haired populations. This question is obviously complicated by the language question, but it is noteworthy that Sutherland, which is as fair-haired in population as any part of Scotland, would appear to show a fairly high proportion of ability relatively to its population, while Inverness, which is the darkest part of Scotland, stands very low, and Galloway, which is a very dark region, stands very much lower than the border counties, which are very fair. If this tendency prevails in Scotland it is the reverse of the tendency which prevails in England (though not in Wales), where the darker-haired districts seem on the whole to be more prolific in ability than the fair-haired regions. Another point about the distribution of genius in Scotland which may be noted is that the quantity and quality of its ability tend to go together. Knox, Burns and Scott, the three most famous Scotchmen—it is unnecessary to say the greatest—all belonged to counties which would appear to be among the most prolific in ability.

Turning to Ireland, we find that, as in Scotland, certain regions appear to be rich in genius, others poor, or even absolutely bare. The distribution is as follows :—

Dublin	15
Cork	10
Antrim	9
Down	8
Waterford	6
Londonderry	6
Kilkenny	5
Clare	4
Westmeath	4
Tyrone	4
Wexford	3
Limerick	3
Kildare	2
Tipperary	2
Kerry	2
Galway	2
Mayo	2
Donegal	2
Armagh	2
Cavan	1
Carlow	1
Wicklow	1
Queen's County	1

Longford	1
Meath, Louth, King's County, Sligo, Roscommon, Leitrim, Fermanagh, Monaghan . .	0

The predominance of Dublin in Ireland, it will be seen, is more decisive than is that of Midlothian in Scotland; it is, however, possible that this is due to a greater ignorance of the ancestry of eminent Irishmen. In any case, however, it will be observed that the region of Ireland chiefly productive in ability is Leinster with the adjoining portion of Munster, and, closely following it, Ulster. Both these districts—for we may consider them as separate though they adjoin, as they are anthropologically distinct, the people of Ulster being much darker—have long been racially mixed. In the first district Goidels and Brythons were both numerous, and various minor foreign immigrations have taken place here since; in comparatively recent times it was chiefly in Waterford and Dublin that the French Huguenots of Ireland settled. Ulster, as is well known, received a large infusion of English and Scotch blood in the seventeenth century, and this admixture has very largely affected the character of the ability it has produced. It is, however, a mistake to suppose that the temperamental,

sometimes rather aggressive, energy of Ulstermen is due solely, or even perhaps mainly, to English and Scotch admixtures, influential as these have been. "There is neither in Alban nor in Ireland," we read in Lady Gregory's recension of the great Irish saga, "an army that can put down the men of Ulster when once their weakness is gone and their anger is kindled." * Giraldus Cambrensis also bears testimony to the vigour of the aboriginal Ulsterman. The "Saxon" outsider is sometimes tempted to think that in many respects the modern men of Ulster are more Irish than the Irish themselves, and such an opinion finds support in the fact that, as measured by the index of nigrescence, Ulster anthropologically approaches Connaught. There can be no doubt, however, that English and Scotch elements, however largely admixed with aboriginal elements, play a very large part indeed in the manifestations of Irish genius.

It would be of some interest to classify our eminent persons into groups according to their activities and to note the district in which each group tends to predominate. Appendix B will enable the reader to examine into this matter for himself. As might be expected, politicians, divines, and men of letters abound in all parts

* *Cuchulain of Muirthemne*, p. 256.

of the kingdom. It is curious to note that great lawyers are also scattered over the whole kingdom with notable impartiality. While poets are to be found everywhere, they are distinctly more predominant in the south of England, and to a less extent in Wales and the Welsh border counties; but when we consider the origins of those English poets who are unanimously recognised to stand first, we find them scattered over the whole country as widely apart as possible, Chaucer probably in Suffolk, Spenser in Lancashire, Shakespeare in Warwickshire, Milton in Oxfordshire, Wordsworth in Yorkshire, Shelley in Sussex, Keats in Devon or Cornwall.

In science Scotland stands very high, Ireland extremely low. The distribution of scientific men is as follows:

English	84
Welsh	2
Scotch	21
Irish	1
Scotch-English	7
Scotch-Irish	2
English-Irish	1
English-German	1
English-Dutch	1

In order to realise the extraordinary preponder-

ance of the Scotch over the Irish contingent, it must be remembered that until the present century the population of Ireland has been much larger than that of Scotland, and it may be noted that the one purely Irish man of science (Tyndall) was of original English origin.

If we proceed to consider the distribution of English men of science in the four distinct ethnological regions to which reference has already been made, we find that six belong more or less to the East Anglian focus, five to the South-western focus, four to the Welsh Border region, and seven to the large Anglo-Danish district.

It is of interest to compare these results with those obtained by Galton in the case of his modern English men of science (*English Men of Science*, pp. 18, 21). He found that three-fourths were English. Of every ten, there were:

5 Pure English.
1 Anglo-Welsh.
1 Anglo-Irish.
1 Scotch.
1 Included Anglo-Scotch, Scotch-Irish, pure Irish, Welsh, Manx and Channel Islands.
1 Unclassed, including mixture of English, French, German, Creole, Dutch, Swedish, etc.

"On an analysis of the scientific status of the men on my list," he remarks, "it appeared to me that their

ability is higher in proportion to their numbers among those of pure race."

This may be said to be in agreement with my results, which necessarily deal with men of a higher average order of ability, and which show a very much smaller proportion of individuals of mixed race, though in part this difference may be accounted for by the greater precision of Mr. Galton's information in relation to his cases. He further points out that the birthplace of his men of science is usually in towns, away from the coast, and he presents a geographical diagram which shows the distribution. This diagram is of interest, for it shows with great precision the fallacy of birthplace as any true indication of the real distribution of ability. Nearly the whole of both the East-Anglian and south-western foci of genius are in this diagram left bare of scientific ability.

"The whole of the Eastern Counties," Mr. Galton remarks, "and the huge triangle at whose angles Hastings, Worcester, and Exeter, or rather Exmouth, are situated, are very deficient in aboriginal science." That the deficiency is very far from being "aboriginal," becomes sufficiently clear when we are careful to ignore the accident of birthplace in determining the origins of men of science.

Psychologically it is not difficult to detect a distinct character in English scientific genius, according as it springs from the Anglo-Danish district or the East Anglian focus or the south-western focus, although I am not aware that this has been pointed out before. The Anglo-Danish district may here be fairly put first, not

only on account of the large number of scientific men it has wholly or in part produced, but also on account of the very high eminence of some among them. The Anglo-Dane appears to possess an aptitude for mathematics which is not shared by the native of any other English district as a whole, and it is in the exact sciences that the Anglo-Dane triumphs.* Newton is the supreme figure of Anglo-Danish science; it will be noted that he belongs to the East Anglian border, and by his mother is claimed by Rutland, a little county which, I am inclined to think, really belongs psychologically and perhaps ethnologically to East Anglia. The combination of the Anglo-Dane and the East Anglian seems highly favourable to scientific aptitude; the abstracting tendency of the Anglo-Dane, and the exaggerated independence of his character, with the difficulty he finds in taking any other point of view than his own, are happily tempered by the more cautious and flexible mind of the East Anglian. Darwin (who also belonged to the Welsh Border) belonged in part, like Newton, to the East Anglian border of the Anglo-Danish district, and also (somewhat remotely) to Norfolk, a county which contains many Danish elements.

* The mathematical tendencies of Cambridge are due to the fact that Cambridge drains the ability of nearly the whole Anglo-Danish district.

The science of the Anglo-Danish district is not exclusively mathematical, and geology especially owes much to the Anglo-Dane ; it will be remembered that geology was one of the first sciences to attract Darwin.

The East Anglian is in scientific matters drawn to the concrete, and shows little or no mathematical aptitude. He is a natural historian in the widest sense. He delights in the patient collection of facts, and seeks to sift, describe, co-ordinate, and classify them. In his hands science becomes almost an art. Gilbert illustrates East Anglian scientific methods in the inorganic world, Ray in the organic, and Francis Bacon, though he cannot himself be classed among men of science, has in the *Novum Organum* and elsewhere presented a picture of scientific method as it most naturally appears to the East Anglian mind.

It is not easy to see anything specific or definitely Brythonic in the scientific activities of the Welsh Border. At most it may be said that there is some tendency for science here to take on a technological character and to become associated with the artistic crafts. The scientific men found here often belong only in part to the district, and many of them seem to possess the psychological characters of the south-western focus.

The scientific characters of the south-western focus are quite clear, and definitely distinct from those of either the Anglo-Danish district or the East Anglian focus. What we find here is the mechanical impulse, and more especially the physiological temper, the instinct to seek out the driving forces of vital phenomena. It is on this account that Harvey, though of Kentish family, may be said to belong psychologically to this focus, as also Stephen Hales, though he belonged partly to Kent and partly to East Anglia. The great scientific physicians belong here (the surgeons are largely East Anglian), with Sydenham at the head and Glisson. Huxley, again, is a typical figure. Inventors are numerous, for the scientific men of this region have frequently been enamoured of practical problems, and just as they have been pioneers in the physical world, so in science they have sought rather to make discoveries than to formulate laws. Thus in astronomy we have Adams, and one of the greatest and most typical scientific men of this region was Thomas Young.

When we consider the distribution of great soldiers, we find the following results :—

English	22
Welsh	3

Irish	4
Scotch	13
English-Scotch	4
English-Irish	2
Scotch-Irish	2

Within England seven belong to the Anglo-Danish district, six to the East Anglian focus, five to the south-western focus, and four to the Welsh Border. In England itself, it will be seen, military genius is relatively less pronounced than in any other part of the British Islands, and what absolute numerical preponderance the English element possesses seems to be due exclusively to the earlier periods of English history; the line of great English generals apparently ended with Marlborough. The Scotch stand easily at the head; the Irish would take a much higher place if we considered the nineteenth century separately.

When, however, we turn to the distribution of great sailors, a very different result is shown, and the position of English ability is more than reasserted. While England has produced as many as 29 great sailors, only two are Scotch, one English-Scotch, one English-Welsh and none Irish. Within England, eleven belong to the south-western focus, ten to the Anglo-Danish district and more especially to its southern border in

Lincolnshire, four to the East Anglian focus and four to the Welsh Border.

The distribution of artists (including sculptors and architects as well as painters) is as follows:

English	51
Welsh	3
Scotch	10
Irish	5
English-Welsh	1
English-Scotch	2
Scotch-Irish	1
English-French	2
English-German	2
English-Italian	1
English-Russian	1

Within England we find that eighteen are scattered over the large Anglo-Danish district, more than a third of these, however, belonging to the small county of Nottinghamshire, twelve are East Anglian, eight belong to the south-west, six to the Welsh Border.

The fertility of Nottinghamshire—a county not otherwise notably productive of genius—in artists is a phenomenon of some interest in view of the fact that Nottinghamshire was a great art-centre in the fourteenth century, when its "alablasterers" sent re-tables, screens and

figure-panels to all parts of Western Europe. (*Architectural Review*, April, 1903, p. 143.) It would be idle to see here the influences of tradition; we cannot suppose that there was any continuity of this kind between the fourteenth century alablasterers and nineteenth century painters, the possibility of such continuity having been absolutely destroyed by the Reformation. The reasonable supposition is that we see here a native bent to art showing itself at one time in one form, at another time in another form.

I have elsewhere (*Monthly Review*, March, 1902) discussed some interesting points in the distribution of British artists, and have shown how the painters of the east coast differ essentially from those of the west.

A very definite case of special distribution of ability, differing markedly from the distribution of ability generally, is furnished by great actors and actresses. So far as it can be traced this distribution is as follows:—

English	23
Welsh	1
Irish	6
English-Welsh	1
English-Scotch	1
English-Irish	6
English-French	1
Irish-French	1
English-Irish-French-Swiss	1
English-Danish	1

It will be seen that the Scotch virtually do not appear at all, and that the relative preponderance of the Irish is enormous. Our knowledge of the ancestry of actors is peculiarly vague and uncertain, and it is highly probable that if our knowledge on this point were more precise the preponderance of the Irish element, at the expense of the English element, would be still greater. The distribution of actors within England, so far as we are able to trace it, further illustrates the poverty of the more specifically English districts in dramatic ability of a high order. Four of our great actors and actresses belong more or less to the south-western focus, four to the Welsh Border, three to the East Anglian focus, and only two to the whole Anglo-Danish district.

I do not propose to discuss here the various causes which have led to the special distribution of genius in the British Islands, and to the variations in distribution shown by different kinds of genius. While many of the characters thus revealed are evidently due to racial characteristics, it would be rash to assume that they may all thus be accounted for. We have also to take into account environmental conditions. It is not easy to make an exact comparison on this basis before the nineteenth century. The careful study of the condition of England made by Joseph Fletcher, secretary of the Statistical Society, on the basis of the census of 1841, conveniently enables us to make various comparisons for this period, and we may be fairly certain that the

conditions then prevailing had existed during a considerably earlier period.

When, on this basis, we examine the various counties, there would appear to be a tendency to correlation between fertility in genius and (1) amount of real property per head of population; (2) deficiency of persons of independent means; (3) amount of ignorance (Norfolk is among the seven most ignorant counties, while Suffolk and Hertfordshire are also among the ignorant counties); (4) commitals for serious offences against the person (Norfolk is at this period the most criminal county in this respect, being in relation to population 80 per cent. above average, while Huntingdonshire, with little genius, has the least criminality, being 63 per cent. below average); (5) bastardy (the four counties with largest proportion of illegitimate children being Cumberland, Hereford, Norfolk and Nottinghamshire).

On the other hand there appears to be no tendency to correlation between fertility in genius and (1) offences against property (excluding the "malicious" group which are included in offences against the person); (2) assaults; (3) improvident marriages; (4) pauperism; (5) density of population; (6) crime (general commitments); (7) amount of deposits in savings banks per head of population.

While such comparisons are at various points of much interest and possibly of real significance, it must be remembered that though it is highly probable that there is a real connection between genius and the conditions prevailing in its environment, we must not here too hastily assume such a connection. It may be added that we should also have to take into consideration the conditions prevailing in the birthplaces of men of genius, which are not always the places of their origin.

III.

SOCIAL CLASS.

Status of parents of British men of genius—Upper Class—Yeomen and Farmers—Clergy—Medicine—Law—Army—Navy—Miscellaneous Professions — Commercial Classes — Crafts — Artisans and Unskilled — The parentage of artists—The parentage of actors—How far change has taken place in the social composition of the genius-producing class—Comparison of the genius-producing classes with the ordinary population.

IN considering to what social classes the 1,030 eminent British men and women on our list belong, we naturally seek to ascertain the position of the fathers. In 201 cases it has not been easy to pronounce definitely on this point, and I have, therefore, omitted these cases as doubtful. The remainder may be classed with a fair degree of certainty. I find that they fall into the following groups :—

		Per cent.
Upper classes (or "good family")	154	18.5
Yeomen and farmers . . .	50	6
Church	139	16.7
Law	59	7.1

		Per cent.
Army	35	4.2
Navy (and sea generally) .	16	1.9
Medicine	30	3.6
Miscellaneous professions . .	65	7.8
Officials, clerks, etc. . . .	27	3.2
Commercial	156	18.8
Crafts	77	9.2
Artisans and unskilled . .	21	2.5

In some thirty cases the status of the father is entered under two heads, but, as a rule, it has seemed sufficient to state what may be presumed to be the father's chief occupation at the time when his eminent child was born.

In the order in which I have placed the groups they may be said to constitute a kind of hierarchy. I place the yeomen and farmers immediately after the Upper Class group, although at one end this group includes the peasant-farmer.* Until recent years, the man who lived on the land which had belonged to his family for many centuries, occupied a position not essentially different from that of the more noble families with some-

* The yeoman may be defined as an owner-cultivator; the farmer may be only a tenant. The poet Crabbe in 1791 visited his wife's uncle, a Suffolk yeoman, called Tovell, to whom he refers as "the first-rate yeoman of that period—the yeoman that already began to be styled by courtesy an esquire. Mr. Tovell might possess an estate of some eight hundred pounds per annum, a portion of which he himself cultivated."

what larger estates around him. Even at the present day, in remote parts of the country, it is not difficult to meet men who live on the land on farms which have belonged to their ancestors through several centuries. Such aristocrats of the soil, thus belonging to "old families," frequently have all the characteristics of fine country gentlemen, and in former days the line of demarcation between them and the "upper class" must often have been difficult to draw. I have formed my "upper class" group in a somewhat exclusive spirit; I have not included in it the very large body of eminent men who are said to belong to "old families"; these I have mostly allowed to fall out as "doubtful," but there is good reason to believe that a considerable proportion really belong to the class of small country gentlemen on the borderland between the aristocracy in the narrow sense and the yeoman and farmer class. To this class, therefore, must be attributed a very important part in the production of the men who have furnished the characteristics of British civilization.

The same must be said of the clergy, whom I place next, because they are largely drawn from the same ranks and have on the whole led very similar lives. (With the clergy I have included thirty-two ministers of religion belonging to very

various denominations.) The religious movements of the past century have altogether transformed the lives of the clergy, but until recent years the parson was usually simply a country gentleman or farmer somewhat better educated, and more in touch with intellectual tastes and pursuits. The proportion of distinguished men and women contributed from among the families of the clergy can only be described as enormous. In mere number the clergy can seldom have equalled the butchers or bakers in their parishes, yet only two butchers and four bakers are definitely ascertained to have produced eminent children, as against 139 parsons. Even if we compare the Church with the other professions with which it is most usually classed, we find that the eminent children of the clergy considerably outnumber those of lawyers, doctors and army officers put together. This preponderance is the more remarkable when we remember that (although I have certainly included eminent illegitimate children of priests) it is only within the last three and a half centuries that the clergy have been free to compete in this field.

It is of interest to note that genius is not the only form of mental anomaly which is produced more frequently by the clergy than by any other social class. The clerical profession, as Langdon Down pointed out many years ago, also produces more idiots than any other class.

Law, Medicine, and the Army and Navy furnish contingents which, though very much smaller than that of the Church, are sufficiently important to be grouped separately, but all the remaining professions I have thrown into a single group. These are: Artists (painters, sculptors, engravers, architects), 20; Actors, etc., 16; Musicians, Composers, etc., 9; Men of Letters, 6; Schoolmasters, 7; Engineers, Surveyors and Accountants, 4; Men of Science, 3. Although so few of the fathers of eminent men can be described professionally as men of letters or men of science, it must be added that in a considerable number of cases literary or scientific aptitudes were present in the parents.

We now reach a group of altogether different character, Trade. It is a group of great magnitude, but its size is due to the inevitable inclusion of a very large number of avocations under a single heading. These avocations range from banking to inn-keeping. The bankers evidently form the aristocracy of the trading class, and a remarkable number, considering the smallness of the class (not less than 12), have been the fathers of eminent sons. Under the rather vague heading of "merchants" we find 25, and there are at least nine "manufacturers." Wine merchants, brewers, vintners, publicans and others connected

with the sale or production of alcoholic liquors have yielded as many as 16 distinguished sons, who have often attained a high degree of eminence, from Chaucer to Joule. Tea and coffee are only responsible for one each. There are eight drapers, mercers and hosiers, and six tailors and hatters; grocers and a great number of other shop-keeping trades count at most three or four eminent men each. It is, perhaps, noteworthy that at least four Lord Mayors of London have been the fathers of distinguished sons; only one of them (Gresham) attained fame in business, the others becoming men of letters and scholars. It must be added in regard to this group that in a certain number of cases the particular "trade" or "business" of the father is not specified.

The group which I have denominated "Crafts" is closely related to that of "Trade," and in many cases it is difficult or impossible to decide whether an occupation should be entered under one or the other head. But, speaking generally, there is a very clear distinction between the two groups. For success in the essentially commercial avocations is involved, above all, financial ability; the crafts are essentially manual, and success here involves more of the qualities of the artist than of the tradesman. Just as the banker is the typical representative of commercial trans-

actions, so the carpenter stands at the head of the crafts. There seems to be something peculiar in the life or aptitudes of the carpenter especially favourable to the production of intellectual children, for this association has occurred as many as thirteen times, while there are four builders. No other craft approaches the carpenter in this respect; there are five shoemakers, five cloth-workers, five weavers (all belonging to the early phase of industrial development before factories), five goldsmiths and jewellers, four blacksmiths, while many other handicrafts are mentioned once or twice.

Finally, we reach the group of parents engaged in some unskilled work, and, therefore, belonging to the lowest social class. It is the smallest of all the groups, and, though including some notable persons, it can scarcely be said to be a pre-eminently distinguished group. As many as eight of the parents were common soldiers, the rest mostly agricultural labourers.

It may be interesting to inquire whether our eminent men, when grouped according to the station and avocation of their fathers, show any marked group-characters; whether, in other words, the occupation of the father exercises an influence on the nature and direction of the intellectual aptitudes of the son. To some extent it

does exercise such an influence. It is true that there are eminent men of very various kinds in all of these groups. But there is yet a clearly visible tendency for certain kinds of ability to fall into certain groups. It is not surprising that there should be a tendency for the son to follow the profession of the father. Nor is it surprising that a great number of statesmen should be found in the upper class group. Men of letters are yielded by every class, perhaps especially by the clergy, but Shakespeare and, it is probable, Milton belonged to the families of yeomen. The sons of lawyers, one notes, even to a greater extent than the eminent men of "upper class" birth, eventually find themselves in the House of Lords, and not always as lawyers. The two groups of Army and Medicine are numerically close together, but in other respects very unlike. The sons of army men form a very brilliant and versatile group, and include a large proportion of great soldiers; the sons of doctors do not show a single eminent doctor, and if it were not for the presence of two men of the very first rank—Darwin and Landor—they would constitute a comparatively mediocre group.

Painters and sculptors constitute a group which appears to be of very distinct interest from the point of view of occupational heredity. In social

origin, it may be noted, the group differs strikingly in constitution from the general body, in which the upper class is almost or quite predominant. Of 63 painters and sculptors of definitely known origin, only two can be placed in the aristocratic division. Of the remainder 7 are the sons of artists, 22 the sons of craftsmen, leaving only 32 for all other occupations, which are mainly of lower middle class character, and in many cases trades that are very closely allied to crafts. Even, however, when we omit the trades as well as the cases in which the fathers were artists, we find a very notable predominance of craftsmen in the parentage of painters, to such an extent indeed that while craftsman only constitute 9.2 per cent. among the fathers of our eminent persons generally, they constitute nearly 35 per cent. among the fathers of the painters and sculptors. It is difficult to avoid the conclusion that there is a real connection between the father's aptitude for craftmanship and the son's aptitude for art. To suppose that environment adequately accounts for this relationship is an inadmissible theory. The association between the crafts of builder, carpenter, tanner, jeweller, watchmaker, wood-carver, rope-maker, etc., and the painter's art is small at the best, and in most cases non-existent. Nor, on the other hand, is there any reason what-

ever to conclude that the fathers have acquired manual dexterity which the sons have inherited and put to finer use. Without reverting to the hypothesis of the inheritance of acquired characteristics, we may well suppose that among craftsmen there is a natural selection of individuals possessing special dexterity of hand, and this tendency to manual skill would tend to be inherited. Such a supposition would adequately account for the phenomena which meet us in the present investigation. That there is physical selection in occupations we know to be the case, so that, as Beddoe has shown, butchers tend to be fair and shoemakers to be dark.

It may be noted that Arréat (*Psychologie du Peintre*, 1892, Ch. II), in investigating the heredity of 200 eminent European painters, reached results that are closely similar to those I have reached in my smaller purely British group. He found that very few were of upper class social rank, and these not usually among the most important, while nearly two-thirds of the whole number were found to be the sons either of painters or of workers in some art or craft. He refers to the special frequency of jewellers among the fathers. I may remark that in my list, working jewellers and watchmakers occurred twice, a small number, but relatively large considering that there are only three fathers of this occupation in the total parentage of British men of ability.

The group of painters and sculptors differs widely,

as we have seen, so far as the social and occupational status of their fathers is concerned, from the general composition of the whole group of eminent persons. The group of actors and actresses, however, reverses altogether the conclusions we reach from contemplating the entire group. While good social class and leisurely cultivated life among the parents would seem on the whole to be of decided advantage for the production of eminent offspring, among actors and actresses low and obscure birth would seem to be a positive advantage. At least three or four were illegitimate children, while in numerous other cases we are led to infer that this was probably the case. Of the thirty whose origin is known, four and probably more—a very large proportion considering the smallness of the unskilled class—can be set down as the children of unskilled labourers or common soldiers, eleven are the children of actors, while the rest mainly belong to miscellaneous and often somewhat unskilled occupations. Only six can be assigned to the whole group of professions (excluding the actor's profession), and only one can be said to belong to the upper class, Booth being the son of an impoverished squire with aristocratic connections. It is not difficult to account for this state of things. The somewhat unbalanced and excessively impressionable

nervous system which is apt to result from illegitimate birth, or birth under abnormally Bohemian conditions, the poverty, irregularity, and manifold changes of occupation to which so many great actors and actresses have been subjected in early life, usually among varied and often low social strata, the absence of training and education in formal knowledge and conventional conduct, combined with the abundant opportunity of becoming familiar with the most naturally dramatic section of the community—all these and other characteristics which have tended to mark the early lives of great actors and actresses, would tend to fit them for the histrionic profession and to unfit them for any other field in which natural ability may be shown.

There is some interest in considering separately the eminent persons in my list, 81 in number, who died in the period during which the *Dictionary of National Biography* was being produced, and are therefore included in the Supplement. These may be expected to give us some indication as to the direction in which we may now look for our eminent men. So far as can be judged, however, from so small a group, the social composition remains exactly the same. The aristocratic element is still very large. The most notable difference is that Commerce (represented by 18 individuals)

has gained on the Church (which is represented by only 11); the Church has fallen to the proportion of less than 14 per cent., the general proportion of the Church for the whole period being 16.7 per cent.; and Commerce has risen to over 22 per cent. as against 18.8. Whether the relative ability-producing powers of the clergy and the commercial classes have changed, or whether, as is possible, the clergy now constitute a smaller and the commercial classes a larger element in the general population, is a question I do not undertake to answer. The quota produced by the medical profession has relatively risen, and that produced by the legal profession fallen (being only represented by one individual). More significant is the fact that the crafts instead of producing over nine per cent. have not produced one of this latest group of eminent men, while (unless the reticence of the national biographers is at fault) the artisan and unskilled classes have been equally unproductive. It would appear that the ability-producing powers of the community are becoming narrowed on what is mainly a mixed aristocratic and commercial basis.

In order to realise the significance of our results it is necessary to bear in mind the class constitution of the ordinary population in Great Britain. According to the Anthropological Com-

mittee of the British Association, this may be stated as follows :—

Professional classes . .	4.46 per cent.
Commercial classes . .	10.36 „
Industrial classes . .	10.90 „
Artisans	26.82 „
Labourers	47.46 „

The comparison with the class of ability-producing persons is interesting. We have two pyramids, but the base of the one corresponds with the apex of the other, the same inverted relationship existing harmoniously throughout. The aristocratic class which forms the foundation of the ability-producing pyramid (though this fact is slightly disguised by the omission from my list of hereditary peers) forms the fine and invisible apex of the pyramid constituted by the ordinary population. The professional class which (often in close association with the aristocratic class) forms the great bulk of the one pyramid still merely appears as the apex of the other. The commercial class also bulks more largely in the ability-producing pyramid, but to a much less extravagant extent. The industrial class (or craftsmen) which comes in the middle furnishes about the same proportion in each case, while the artisans and labourers who form nearly three-

quarters of the general population appear among the ability-producing persons as a vanishing point almost as negligible as the aristocratic class is among the general population.

This is not altogether an unexpected result, though it has not before been shown to hold good for the entire field of the intellectual ability of a country. Maclean's statistical study of the origins of British men of ability during the nineteenth century shows that 26 per cent. of those of known origin were sons of "aristocrats, officials, etc."; 16 per cent. were sons of clergymen; 15 per cent. sons of farmers, tradesmen, artisans, etc.; 9 per cent. of military and naval officers; 9 per cent. of business men; 5 per cent. of medical men; 4 per cent. of lawyers, etc. The result was almost identical when the 100 men of pre-eminent ability were considered separately.

C. H. Cooley (*Annals of American Academy*, May, 1897) investigated the point in regard to a group of distinguished European poets, philosophers, and men of letters, and found that 45 belonged to the upper and upper middle classes, 24 to the lower middle class, and only 2 to the lower class.

Odin, in a laborious though not always very illuminative study of French genius (*Genèse des Grands Hommes*, vol. II., table 31), found that 623 talented people of letters, so far as the position of their parents was known, could be classed as: nobility, 25.5 per cent.; magistrature, 30 per cent.; liberal professions, 23 per cent.; middle class, 11.6 per cent.; industrial class, 9.8 per cent.

Galton, among 107 recent English men of science

(*English Men of Science*, 1874, p. 22), found, as might be anticipated, that the aristocratic element was smaller, only 8.4 per cent.; but the allied professional class (army, navy, civil service, church, medicine, law, etc.) accounted for as much as 48.5 per cent.; while the commercial class furnished nearly all the rest, 40.1.

One is tempted to ask how far the industrial progress of the nineteenth century, the growth of factories, the development of urban life, will alter the conditions affecting the production of eminent men. It seems clear that, taking English history as a whole, the conditions of rural life have, from the present point of view, produced the best stocks. The minor aristocracy and the clergy —the "gentlemen" of England—living on the soil in the open air, in a life of independence at once laborious and leisurely, have been able to give their children good opportunities for development, while at the same time they have not been able to dispense them from the necessity of work. Thus, at all events, it has been in the past. How it will be in the future is a question which the data before us in no way help to answer. So far as can be seen, the changing conditions of life have as yet made no change in the conditions required for producing genius. Life in the old towns formerly fertile in intellectual ability—towns like Edinburgh, Norwich, Ipswich and

Plymouth—was altogether unlike life in our modern urban centres, and there is yet no sign that the latter will equal the former in genius-producing power. Nor is there any sign that the education of the proletariat will lead to a new development of eminent men; the lowest class in Great Britain, so far as the data before us show, has not exhibited any recent tendency to a higher yield of genius, and what production it is accountable for remains rural rather than urban.

IV.

HEREDITY AND PARENTAGE.

The tendency to heredity in intellectual ability—Inheritance of ability equally frequent through father and mother—Mental abnormality in the parents—Size of the families to which persons of eminent ability belong—Normal standards of comparison—Genius-producing families tend to be large—Men of ability tend to be the offspring of predominantly boy-producing parents—Women of ability perhaps tend to belong to girl-producing parents—Position in the family of the child of genius—Tendency of men of ability to be youngest and more especially eldest children—The age of the parents of eminent persons at their birth—Tendency to disparity of age in the parents.

THE heredity of intellectual genius has been very fully discussed, with special reference to eminent persons of British birth, by Mr. Francis Galton, especially in his *Hereditary Genius*. With, perhaps, even an excess of zeal—for persons of somewhat minor degrees of ability have sometimes been taken into account—Mr. Galton has shown that intellectual ability has frequently tended to run in families. If this hereditary tendency is by no means omnipresent, the present data prove conclusively that it is a very real factor. Notwithstanding that the effects of hereditary posi-

tion have been so far as possible excluded, and that our lists only contain persons of pre-eminent ability, distributed over fifteen centuries, it is yet found that among these 1,030 persons there are 41 groups, of two or three individuals in each group, who are closely related. The recognized relationships are father and son (the Arnolds, Bacon with his two sons, the Boyles, the Cannings, the Coleridges, the Copleys, the Grenvilles, the Lyttons, the Mathewses, the Mills, the Penns, the Pitts, the Walpoles, the Wilberforces), brother and brother (the Herberts, the Lawrences, the Napiers, the Nasmyths, the Newmans, the Scotts, the Veres, the Wesleys, the Wordsworths), brother and sister (the Arnes, the Carpenters, the Kembles, the Martineaus, the Rossettis), sister and sister (the Brontes). The relationship between grandchildren and grandparents, and between uncles (or aunts) and nephews (or nieces) is best shown in a table.

	Paternal Grandfather.	Maternal Grandfather.
Jevons		Roscoe
Darwin	E. Darwin	Wedgwood
Donne		J. Heywood
Sidney		Duke of Northumberland
Third Earl of Shaftesbury	First Earl of Shaftesbury	

	Paternal Uncle or Aunt.	Maternal Uncle or Aunt.
J. Baillie		Hunter
Beddoes		M. Edgeworth
G. Bentham	J. Bentham	
Brougham		Robertson
Burnet		Lord Warriston
W. Hook	T. Hook	
F. A. Kemble J. M. Kemble	S. Siddons J. P. Kemble	
M. Kingsley	C. Kingsley	
C. J. Mathews		F. M. Kelly
Christopher Wordsworth Charles Wordsworth	W. Wordsworth	

It will be observed that Darwin has the unique distinction of possessing, within the narrow degrees of relationship here recognised, both a paternal and a maternal ancestor of the high degree of eminence required for inclusion in my list.

The table just presented is of considerable interest because it helps us to answer the question as to the degree in which genius may be inherited in the female line. A consideration of direct heredity has no bearing on this question; a man inherits genius from his father more often than

from his mother for the simple reason that genius is rare in women. We reach a juster conclusion if we consider those cases in which the heredity is one degree removed, and then note whether it is transmitted more often in the male or in the female line. All such cases in my list are included in the table just given, and we are thus enabled to see that, considering the smallness of the numbers with which we are dealing, the sexual partition of the heredity is as equal as we could possibly hope to expect. A man is just as likely to inherit ability through his mother as through his father.

It will be noted that in the case of the four poets included in this table (Donne, Sidney, J. Baillie, Beddoes), the heredity was in every case maternal. This would at first sight seem to confirm the conclusion of Möbius that a poet's heredity is from his mother. It must be added, however, that in most of these four cases there was also an unusual degree of ability in the father, while only in one case was the eminent maternal relative a poet.

It is held by some that artistic genius is very rarely inherited in any high degree. Thus Max Müller wrote (*Autobiography*, p. 34): "It seems almost as if the artistic talent was exhausted by one generation or one individual," and he specially instances the rarity of eminent musicians who are the children of eminent musicians, the case of the Bachs being no true exception since music before J. S. Bach was usually simply a kind of craft. It is true that

not a single eminent musical composer (not a large group, be it noted) occurs in the list of related persons given above, but there are representatives of other arts, though not to any notably large extent. It is probable that whatever truth lies in the statement that high artistic ability is not inheritable may be reduced to the larger statement that "talent" is more inheritable than "genius." The distinction between "genius" and "talent" is, however, one that is extremely difficult to make, and we shall not be concerned with this question in the present volume.

It is scarcely necessary to remark that in a very large number of cases the pre-eminent persons in our list were nearly related to eminent persons who have not reached the degree of distinction entitling them to appear in the list. Here an objective test is less easy to apply. The test I have adopted is the statement of the national biographers in referring to such relationship. The results of an inquiry on this basis distinctly confirm the result already reached as to the equal inheritance of intellectual ability on the paternal and maternal sides. Avoiding any summation of the results until the two lists of eminent relations were finally completed, it was found that the numbers on each side were exactly equal On the father's side there were forty-four intellectually eminent relations, not including the father himself, and an exactly equal number on the mother's side. It is scarcely necessary

to point out that these numbers do not even approximately represent the total number of eminent relations, for relationship to one eminent person often involves relationship to a whole family of eminent persons; they merely serve to show that when the eminent near relations of an eminent man are impartially noted, such relations are just as often through the mother as through the father.

I have also noted every case in which it is stated or implied that one or other, or both, of the parents possessed an unusual amount of intellectual ability, by no means necessarily involving any degree whatever of "eminence." These cases are very numerous, and as such ability may often have been displayed in very unobtrusive ways, it must frequently have escaped the attention of the national biographers. In 150 cases the father showed such ability; in 89 cases the mother is noted as of unusual ability, or else as being closely related to some person of eminent ability presumed to have transmitted an intellectual aptitude, whether or not she showed marked signs of such aptitude herself. In 21 of these cases both the father and the mother probably transmitted intellectual aptitudes. Over 20 per cent. of our 1,030 eminent persons have certainly inherited intellectual aptitudes. Bearing

in mind that in many cases the aptitudes of the parents are unknown or have passed unnoticed, and that in other cases the national biographers have failed to record known facts, it is not improbable that the proportion of cases in which one or other of the parents of our 1,030 eminent persons displayed more than average intellectual ability may be at least doubled.

A more probable estimate of the real frequency of heredity may be obtained by considering separately the very recent and better known individuals who appear in the Supplement of the *Dictionary of National Biography*. Of the 81 eminent persons, thus incorporated in my list, who died while the *Dictionary* was in progress, it is found that in the case of 33 the father, the mother, or both are noted as being persons of unusual ability. This is equal to a proportion of about 40 per cent., or the proportion in which, on independent grounds, I have already suggested as representing the probable amount of inherited ability. Even for the modern group, however, we must still suppose the data to be incomplete.

From another point of view the consideration of this modern group is of interest in the light it throws on the question of heredity. I find that among the 38 able parents of the 33 eminent persons who may be supposed to have inherited

ability, the sexual division comes out as exactly equal; that is to say, that there are 19 able fathers and 19 able mothers. This would seem to indicate very clearly that, although that superlative degree of ability which is commonly termed "genius" is rare in woman, yet a more than average degree of ability in the mother is just as important from the point of view of intellectual heredity as a more than average degree of ability in the father.

Among modern English scientific men Galton (*English Men of Science*, p. 72) has also found that ability is just as likely to be inherited through the female as through the male line. Among 100 scientific men, on the paternal side he found 34 grandfathers and uncles of ability, on the maternal side 37. As in my results, there would seem to be an excess, if any, on the maternal side.

In determining the parents who possessed ability I have taken no note of the cases in which it is merely said that the father or the mother possessed "poetic tastes," "musical tastes," etc., but only of those cases in which it is clearly stated or implied that there was unusual ability. Such "ability" in most cases by no means involved recognised "distinction." As a matter of fact only one of the 81 had a parent of the same degree of eminence as himself, *i.e.*, sufficiently

eminent to be included in my list. So that while the proportion of eminent persons with an "able" parent approaches one in two, the proportion of eminent persons possessing a parent equally "distinguished" with themselves is only one in 81. This proportion of eminent parents is shown not to be very far astray by reference to the whole body of individuals on my list, among whom there are fifteen possessing a parent of sufficient eminence to be included in the list, or about one in seventy. If we lowered the standard of distinction demanded in the parents the proportion would of course be raised.

It would be interesting to inquire into the moral and emotional qualities, the "character," of the parents. This, however, is extremely difficult and I have not attempted it. In a great many cases the mother was a woman of marked piety, and we are frequently led to infer an unusual degree of character, sometimes on the part of the mother, sometimes of the father. Moral qualities are quite as essential to most kinds of genius as intellectual qualities, and they are, perhaps, even more highly transmissible. They form the basis on which intellectual development may take place, and they may be transmitted by a parent in whom such development has never occurred. The very frequent cases in which men

of eminent intellectual ability have declared that they owed everything to their mothers * have sometimes been put aside as the expressions of an amiable weakness. It requires some credulity, however, to believe that men of pre-eminent, or even less than pre-eminent, intellectual acuteness are unable to estimate the character of their own parents. The frequent sense of indebtedness to their mothers expressed by eminent men may be taken as largely due to the feeling that the inheritance of moral or temperamental qualities is an even more massive and important inheritance than definite intellectual aptitudes. Such inheritance coming to intellectual men from their mothers may often be observed where no definite intellectual aptitudes have been transmitted. It is not, however, of a kind which can well be recorded in biographical dictionaries, and I have not, therefore, attempted to estimate its frequency in the group of pre-eminent persons under consideration.

I have, however, attempted to estimate the frequency of one other form of anomaly in the parents besides intellectual ability. The parents of persons of eminent intellectual power may not

* A remark of Huxley's in a letter to the present writer,—"Mentally and physically I am a piece of my mother,"—may be taken as typical of such declarations.

themselves have been characterized by unusual intellect; but they may have shown mental anomaly by a lack of aptitude for the ordinary social life in which they were placed. In at least 57 cases (or over 5 per cent.) we find that the fathers were extravagant, unsuccessful in business, shiftless, idle, drunken, brutal, or otherwise fell into bad habits and neglected their families. In such cases, we may conclude, the father has transmitted to his eminent child an inaptness to follow the beaten tracks of life, but he has not transmitted any accompanying aptitude to make new individual tracks. This list could easily be enlarged if we included milder degrees of ineffectiveness. A certain degree of inoffensive eccentricity, recalling Parson Adams, seems to be not very uncommon among the fathers of men of eminent ability, and perhaps furnishes a transmissible temperament on which genius may develop. It may be noted that six of the ne'er-do-weel fathers (a very large proportion) belonged to eminent women. This may be simply due to the fact that a ne'er-do-weel father, by forcing the daughter to leave home or to provide for the family, furnishes a special stimulus to her latent ability.

In 403 cases I have been able to ascertain with a fair degree of certainty the size of the families

to which these persons of eminent ability belong. A more than fair degree of certainty has not been attainable, owing to the loose and inexact way in which the national biographers frequently state the matter. Sometimes we are only told that the subject of the article is "the child" or "the son"; this may mean the *only* child, but it is impossible to accept such a statement as evidence regarding the size of the family, and the number of families with only children may possibly thus have been unduly diminished. Again, the biographers in a very large number of cases ignore the daughters, and from this cause again their statements become valueless. In estimating the natality of the families producing children of ability I have never knowingly reckoned the offspring of previous or subsequent marriages; so far as possible, we are only concerned with the fecundity of the two parents of the eminent persons. So far as possible, also, I have reckoned the gross fecundity, *i.e.*, the number of children born, not the number of children surviving; in the case of a large number of eminent men this gross fertility is known from the inspection of parish registers; in a certain proportion of cases it is probable, however, that we are only dealing with the surviving children. On the whole, the ascertainable size of the family

may almost certainly be said to be under the mark. It is, therefore, the more remarkable that the average size of genius-producing families is found to be larger than that of normal families. The average size of our genius-producing families is 6.5. In order to effect an exact comparison with normal families, I have looked about for some fairly comparable series of figures, and am satisfied that I have found it in the results of an inquiry by Mr. F. Howard Collins concerning 4,390 families.* These families furnish an excellent normal standard for comparison; they deal mainly with "Anglo-Saxon" people (in England and America) of the middle and upper classes; they represent, with probably but very slight errors of record, gross fertility; they are apparently not too recent, and they betray little evidence of the artificial limitation of families. The mean size of Collins's group of fertile families is found by Pearson to be 4.52 children.

This conclusion as to the abnormally large size of the families from which genius tends to spring may be criticised in two directions. It may be argued that there has been no recognition of the possibly larger size of the normal family in the earlier periods which my

* As quoted by Karl Pearson, *The Chances of Death*, vol. I., p. 70. In passing through Mr. Pearson's mathematical hands the 4,390 emerge a 4.444, and it is on this number that my percentages for normal families ar based.

list covers. It may be said further that even the size of the modern normal family has been underestimated.

It is unnecessary to speculate concerning the average size of the normal family in former days until definite evidence is brought forward. But I may point out that the large size of genius-producing families holds good even when we only take into account the nineteenth century persons on my list. If, for instance, we consider separately the 39 individuals from the supplement to the *Dictionary* concerning whom I have definite data, it is found that the average size of the families is 5.7, and nine out of the number belong to families containing from nine to seventeen children. I may add that at an earlier stage in my inquiry (see *Popular Science Monthly*, April, 1901, p. 598) I found that the size of the families from which British men of genius spring was still larger than the present average of 6.5, being nearly 7 (6.96). The reduction in size is due in part, it would seem, to the large number of persons of comparatively minor ability who have since been added, and perhaps in part to a tendency to slightly decreased size among the families from which have sprung the quite recent individuals contained in the *Dictionary of National Biography*.

In regard to the correct estimation of the average size of the normal family, it must be said that while my results for British genius-producing families are, without doubt, distinctly too low on account of the imperfection of the data, yet every estimate of the average size of the normal family, although founded on much more complete data, yields an average decidedly below 6.5. Thus Ansell found the average size of the family, counting all children born alive, among the English professional classes, to be about 5, or, more precisely, clergy 5.25, legal 5.18,

medical 4.82. (C. Ansell, *On the Rate of Mortality and other Statistics of Families*, 1874). Galton found the mean of 204 marriages 4.65 children, Pearson the mean of 378 fertile marriages 4.70 children.

A very interesting table is given in Mrs. Henry Sidgwick's *Health Statistics of Women Students of Cambridge and Oxford and of their Sisters*, 1890. Mrs. Sidgwick found that these students (566 in number) belonged to families of which the average size was as high as 6.8 children. (It must be said that this result is slightly vitiated by the inclusion of 70 half brothers and sisters.) One is inclined to look upon the result as necessarily presenting the normal average for the families of the class from which these students spring. It must, however, be borne in mind that these figures refer largely to the early days of the higher education of women; we may be fairly certain that a considerable proportion of these students were women of unusual intellectual ability, and that in numerous other cases they belonged to families in which the brothers showed high ability. The result therefore represents not the average fertility of the professional and allied classes from which these students spring, but is complicated by the considerable admixture of the special ability-producing group of the population with its high fertility. This interpretation is clearly supported by Mrs. Sidgwick's tables. She has presented separately the results of a large group containing the Honours Students, and we are hereby enabled to discern the notable fact that the Honours Students belong to decidedly larger families than do the students generally. In students generally the 6-children families constitute the largest group; for the Honours division the 8-children group is the largest, while very large families are

relatively much more frequent among the Honours division than among the division of "other students," so that, for instance, while among Honours students exactly the same number belong to 11-children families as to 2-children families, among "other students" more than twice as many belong to 2-children families as to 11-children families. Mrs. Sidgwick's results may, therefore be said to confirm the results reached in the present investigation.

It may be added that the greater fertility which has been shown to mark the families from which British persons of ability in general have sprung, has already been shown by Galton to mark the special group of families from which modern British men of science spring. Galton found (*English Men of Science*) that the average number of brothers and sisters (excluding, for the most part, those who died in infancy) was 6.3. This indicates, as we should expect, a decidedly higher fertility than in the families producing the women students, though probably not higher than would have been shown by the British ability-producing families generally, had my data been more complete.

Yoder, in studying the early lives of 50 eminent men of various nationalities belonging to the eighteenth and nineteenth centuries (A. H. Yoder, "Boyhood of Great Men," *Pedagogical Seminary*, Oct. 1894,), found that the average number of children in the families from which they sprang, excluding half brothers and sisters, was 6+. This approximates to the result here reached as regards British eminent men only.

It will be seen that the high fertility which we have found among ability-producing families stands in opposition to the well-known tendency to small families among

the higher human races and to the universal tendency, well marked at the present day, for a falling birth-rate to be associated with a rising level of civilisation and well-being. Within the same nation, also, the families of the poorer classes are larger than those of the richer classes; thus in Holland at the present day, both in town and country, the average number of children per marriage in the poorest class is 5.19, against 4.50 for the rich class.

It would, however, be a mistake to suppose that our results can properly be regarded as unexpected. They are, on the contrary, in harmony with all that we know concerning the fertility of the families producing the nervously abnormal classes, which is on the whole decidedly high. Toulouse (*Causes de la Folie*, 1896, p. 91) has summarised the evidence accumulated by Ball and Régis, as well as by Marandon de Montyel, showing that the size of the families from which the insane spring is decidedly larger than the usual average. Professor Magri ("Le Famiglie dalle quali discendono i Delinquenti," *Arch. di Psichiatria*, 1896, fasc. VI.—VII.) has further shown that this abnormally great fertility is by no means confined to insanity-producing families, but also characterises the progenitors of numerous other mentally abnormal groups. Thus he found that criminals in the majority of cases spring from large families, and that although the average size of the normal family in Italy is three or four, it was very rarely possible to find a criminal who belonged to a family of only two or three children. Magri also found that hysteria and neurasthenia are notably frequent in large families.

Langdon Down had previously pointed out (*Mental Affections of Childhood*) that imbeciles and weak-minded

children tend to belong to large families; he found the average number of living children in the families containing idiots to be as high as 7. In Berlin Cassel (*Was lehrt die Untersuchung der geistig minderwertigen Schulkinder*, 1901) found that the average size of the families from which defective children spring is over 7.

Comparing in more detail the composition of our genius-producing families with the normal average, we obtain the following results:—

Size of family . .	1	2	3	4	5	6	7	8
Normal families .	12.2	14.7	15.3	14.1	11.1	8.6	7.8	6.3
Genius-producing families . . .	6.9	9.4	10.6	9.4	10.1	10.4	8.9	6.7

Size of family. .	9	10	11	12	13	14	Over 14.
Normal families .	3.9	2.7	1.4	1.0	.5	.2	.1
Genius-producing families . . .	5.7	4.7	4.9	4.4	2.2	1.9	3.4

Unless, as is scarcely probable, the mental eccentricities of biographers lead to very frequent selection on definite lines, it will be seen that in genius-producing families there is an invariable deficiency of families below the average normal size, and a gradually increasing excess of families above that size. In the largest size

group (over 14) the excess becomes extravagantly large; this, however, may be partly accounted for; probably the biographers have here less seldom failed to record the size of the family, so this group may have been more carefully recruited from the families of our 1,030 eminent persons. Even on this basis, however, it remains extremely large. Ansell found that in 2,000 marriages there was no family of more than 18 children; and in Denmark, it is stated, a family of 22 children only occurs once in 34,000 marriages.*

An interesting point, and one which can scarcely be affected at all by any twist in the biographical mind, is the fact that our men of ability (the women are here excluded) are the offspring of predominantly boy-producing parents. Taking the 180 families in which the number of boys and girls in the family is clearly stated, excluding those (29 in number) which are known to consist only of boys, we find that there are about six boys to five girls, or more exactly 121

* In our genius-producing group there are four families of more than 19 children. Doddridge was the youngest of 20 children; Popham was the youngest of his mother's 21 children; Colet was the eldest and only surviving child of 22; Dempster was, or stated himself to be, the 24th of 29 children. We cannot be absolutely sure that in every case we are dealing with a single couple. It may be added that much larger families are from time to time recorded as produced by a single couple. I may refer for instance to the record (*Brit. Med. Jour.*, 12th Oct., 1901) of a family of 36 children; in such a case there are of course numerous plural births.

boys to 100 girls. The normal proportion of the sexes at birth at the present time in England is about 104 boys to 100 girls. It is in accordance with the predominantly boy-producing tendency of families yielding men of genius that the families yielding women of genius should show a predominantly girl-producing tendency. Here, indeed, our cases are too few to prove much, but the results are definite enough as far as they go. Putting aside the families consisting only of girls, the sexual ratio is almost reversed; there are about six girls to five boys; or, more exactly, the ratio is 79 boys to 100 girls. We find that among the children of parents producing an eminent man there are 55 per cent. boys to 45 per cent. girls; among the children of parents producing an eminent woman there are only 45 per cent. boys to 54 per cent. girls. Putting the matter in another way, we may say that, while in every ten families from which men of genius spring, the boys predominate in six families; in the families from which women of genius spring the boys predominate only in about three.

Ansell found in England (as has Geissler in Saxony) that there are normally a larger number of boys in large families than in small families; in families of 1-5 children he found the proportion of males to females 1,033 to

1,000; in families of 6-10 children, 1,075 to 1,000; in families of 11 children and over, 1,083 to 1,000. It will be seen, however, that this tendency is by no means sufficiently marked to furnish a sufficing explanation of the large preponderance of boys in the families producing eminent men; nor will it account at all for the apparently large excess of girls—this, however, being based on only a small number of cases—in the families producing eminent women.

I may add that while not an all-sufficing explanation, the tendency pointed out by Ansell is evidently a real factor in this peculiarity among the families producing men of ability. I have found it holds good within the limits of the families producing men of ability. Taking at random 25 families with five or fewer children, I find that the girls are in an absolute and decided majority, while in another series, taken equally at random, of 25 families containing eight or more children, males are to females in the proportion of 130 to 100.

It is possible that some light is thrown on the prevalence of boys in large families by the facts observed among animals. It is believed by many authorities that excess of maternal nourishment tends to produce females, and it has also been found that mares over 14 years of age tend to produce colts (*Veterinarian*, 1 Aug., 1895). In large families the maternal nourishment would tend to be decreased by much child-bearing. It is noteworthy—although I have not systematically investigated this point—that the interval between the birth of the eminent person and the previous child is often very short.

Yoder, who especially attended to this point, found that in the 26 cases in which the point could be ascertained, the interval was 22.87 months, while the average

time in the family, for 30 cases, was 25.36 months. This suggests that it is possible that the maternal exhaustion which tends to produce males also tends to produce children of eminent ability.

It may be said on the whole that this excessive boy-producing tendency of the families which produce men of genius is really the resultant of the combined action of a number of factors, each of which, occurring separately, tends to produce a slighter but still abnormally large excess of boys. Not only would it appear that large families, and families in which the children follow very rapidly, tend to yield a large excess of boys, but observations on man and on other animals indicate that an undue excess of males is also found when the age of the father is unduly advanced (see *e.g.*, A. J. Wall, *Lancet*, 1887), when the age of the mother is unusually advanced, when the disparity of age between the parents is unusually great, and when the parents live in the country and are occupied in country pursuits. All these conditions which favour the production of boys have also—as we have seen or shall see—favoured the production of genius in Great Britain. (For a study of the facts and theories bearing on the excess of male births, see A. Rauber, *Der Ueberschuss an Knabengeburten und seine Biologische Bedeutung*, 1900.)

I have made a tentative effort to ascertain what position in the family the child of genius is most likely to occupy. In a large number of cases we are only told his position as a son, not as a child; these are, of course, excluded. In order to investigate this point I considered

the families of at least eight children (and subsequently those of at least seven children) and noted where the genius child came. This showed a very abnormally large proportion of eminent first children, and also abnormally few second and third children. Suspecting that certain peculiarities of the biographical mind (needless to enter into here, since we are not investigating the psychology of biographers) may have somewhat affected this result, I have confined myself to a simple inquiry less likely to be affected by any mental tendencies of the biographers. In families of different sizes, what relation do eldest genius children and youngest genius children bear to genius children of intermediate position? The results are very decisive, and are shown in the following table.

Size of Family.	Position of Eminent Child.		
	Eldest.	Intermediate.	Youngest.
2	15	0	12
3	15	6	11
4	10	16	3
5	10	18	7
6	8	20	6
7	15	14	5
8	2	17	4
9	8	7	4
10	5	10	3
11	3	12	2
12	1	10	2
13	1	4	2
14	0	5	2
Over 14	1	9	4

It would appear that there is a special liability for eldest and youngest children to be born with intellectual aptitudes, the liability being greater in the case of the eldest than of the youngest, for there are altogether 94 eldest children to 67 youngest children, the intermediate children numbering 148; or 30 per cent. are eldest children, 21 per cent. youngest children, and 47 per cent. intermediate. It will be seen that while the eldest and youngest children of ability absolutely outnumber those of intermediate position, notwithstanding the large average size of the families producing children of ability, and the consequently much greater number of chances possessed by the intermediate children as a group, the chances of the eldest attaining eminence as compared with the chances of the youngest are not the same throughout. In the small and medium-sized families it is the eldest who most frequently achieves fame; in the large families it is the youngest. It may be added that if we were to take into consideration the survivors of a family only (or the net fertility) the youngest children would occupy a still more conspicuous position.

This predominance of eldest children and youngest children among persons of genius accords with the results reached by Yoder in studying an international group

of 50 eminent men (*Am. Jour. Psychology*, Oct., 1894, p. 146); he found that youngest sons occurred oftener than intermediate sons and eldest sons oftener than youngest. Galton, in his inquiries as to recent British men of science, reached the same result, finding 36 intermediate sons, 15 youngest sons, and 26 eldest sons. (Galton, *English Men of Science*, pp. 33-4.).

It must be added that this result is absolutely in accordance with what a consideration of other mentally abnormal groups would lead us to expect. Sir Arthur Mitchell appears to have been the first to point out many years ago (*Edinburgh Medical Journal*, Jan., 1866) that among idiots the youngest born and especially the eldest born largely predominate over the intermediate children; he found that among 433 idiots and imbeciles 31 per cent. were first-born children and 20 per cent. last-born. It will be seen that the proportion of eldest and youngest children among Mitchell's idiots and imbeciles is almost identical with the proportion found among British persons of genius. Langdon Down (*Mental Affections of Childhood*) confirmed this conclusion, as regards the tendency of both eldest and youngest children to be imbecile, and Shuttleworth (*Brit. Med. Jour.*, 17 Nov., 1900, p. 1446) has confirmed it so far as youngest children are concerned. Criminals have also been found to be in undue proportion first-born children (L. Winter, *States Hospital Bull.* 1897, p. 463, as quoted by Näcke), and Dugdale found that the first-born child tends to be a criminal and the last-born a pauper. It would appear (see *e.g.* Moll, *Untersuchungen über die Libido Sexualis*. Bd. I., p. 19) that there is some ground for believing that sexual inversion tends especially to appear among eldest and youngest children. It may be added that, according

to Sir J. Humphrey, in racing stables opinion is not favourable as regards firstlings.

It is interesting to find that the same points have been brought out as regards normal school children. This question was specially studied in its wider bearings at Professor Starbuck's suggestion by Mr. G. S. Wells, among a large number of children at San Jose, California (G. S. Wells, *A Study of the Order of the Birth of Children*, 1901. I am indebted to Professor Starbuck for enabling me to see this study in MS.). The children were investigated by trained observers, and their position noted as regards weight, height, weight-discrimination, reaction time, voluntary action, ability, endurance, mental ability, neatness and deportment. In nearly all these respects it was found that eldest children tend to show best, and that youngest children, while inferior to eldest, were superior to intermediate children. Out of numerous curves, fourteen show the first group highest, six the last group highest, only two the intermediate group.

The tendency to nervous abnormality in first-born children would seem to be further indicated by the observations of Miss Carman (*Am. Jour. Psych.*, Ap., 1899) that first-born boys are more sensitive, as estimated by the temple algometer, than second or subsequent children. She also found that the first-born boys are strongest with the dynamometer. Macdonald (*Boston Med. and Surg. Jour.*, 1 Aug., 1901) found that first-born men and women are more sensitive to pain than second-born.

I may remark that I had been impressed twenty-five years ago by the tendency of men of genius to be eldest-born children, although I was not then acquainted with Galton's investigations. It appears to be a popular

belief (H. Campbell, *Causation of Disease*, p. 262, combats this belief) that the first-born child is inferior. Shandy said that the eldest son is the blockhead of the family. On the other hand, there are popular beliefs in the other direction. Thus in Northern Iceland (*Zeitschrift für Ethnologie*, 1900, heft 2 & 3, p. 74) it is believed that the first-born child, whether boy or girl, surpasses the others in strength, stature, beauty, wisdom, virtue, and good fortune, and in olden times the eldest child possessed certain privileges not accorded to the others. These conflicting popular beliefs are fully accounted for by the actual facts. The eldest-born represents the point of greatest variation in the family, and the variations thus produced may be in either direction, useful or useless, good or bad.

Whenever it has been possible, I have noted the age of the father at the birth of his eminent child. It has been possible to ascertain this in 299 cases, and the data thus obtained may be considered as fairly free from fallacy, so far as the biographical mind is concerned, though we may be sure that the biographers would not neglect to mention the two or three known cases in which that age was extremely youthful or advanced. The range of age is considerable, from sixteen, the age of Napier of Merchiston's father at his son's birth, to seventy-nine, the age of Charles Leslie's father, the periods of potency in the case of the fathers of persons of eminent ability thus ranging over sixty-three years. The

299 cases may be grouped in five-year age-periods as follows:

Age of Fathers.	Under 20	20–24	25–29	30–34	35–39
Number of Fathers.	2	9	45	81	59
Percentages . . .	·6	3	15	27	19

Age of Fathers.	40–44	45–49	50–54	55–59	60 and over.
Number of Fathers.	44	30	13	8	8
Percentages . . .	14	10	4	2	2

It will be seen that the most frequent age of fatherhood is from 30 to 34, but there are two separate years of maximum frequency, 34 and 36, each with 19 cases. A prevalence of elderly fathers seems indicated by the fact that the general average falls later than this maximum, being 37.1 years. For one father who begets an eminent child before the age of maximum paternity,—which is also, we may assume, the age of maximum general vigour,—there are nearly three who beget an eminent child when that age is past. This result is the more significant when we remember that we are chiefly dealing with the upper social

classes (for it is in their cases that these facts are most easily ascertained), and that we must probably exclude the recent tendency to retardation of the age of marriage.

I have thought that it may be of interest to separate from the main body the one hundred most recent of the eminent persons on my list (all born in the nineteenth century) and to consider how the ages of their fathers are distributed. The result is as follows:

Age . . .	20—	25—	30—	35—	40—	45—	50—	55—
Number . .	1	18	30	18	14	14	4	1

The most frequent age is 34, but the average age is 37, being almost equal to the average for the fathers of the whole group, so that this factor in the biological constitution of the genius group would appear to be fairly uniform throughout and independent of social and economic changes, except that the age of the fathers has perhaps tended in the course of time to become slightly lower. Although this decrease in age is very trifling, it appears to be confirmed by the results yielded if we make a separate group of the 71 individuals born before the eighteenth century the age of whose fathers

I have been able to determine. The distribution is as follows :

Under 20	20—	25—	30—	35—	40—	45—	50—	55—	60 and over.
2	3	13	13	14	10	7	2	4	3

The most frequent age here, taking the years separately, is as low as 25, but on the other hand the average age is slightly higher than that for the general group, being 37.2. It is possible that this slightly higher age—very trifling as it is—indicates a real tendency. The further we go back the higher becomes the intellectual average of the individuals we are dealing with, and there is some reason to suppose that with such high average intellectual level, the average age of the fathers is also higher, and the range of variation is greater. Such trifling fluctuations would be negligible if they did not all point in one direction.

I may refer to another indication which helps to confirm the conclusion that when we are dealing with a group of men of very high intellectual eminence the average age of their fathers is slightly higher than when we are dealing with a group of lower eminence. On separating into a distinct group all those eminent men on my list who are also included in the first three hundred (*i.e.*, the most eminent section) of Professor

Cattell's one thousand most eminent persons in history (see *ante*, p. 8), we obtain a group of 37 individuals who are without doubt of a higher level of intellectual ability than the general average of the British group. The age of the fathers of the pre-eminent men in this special group is as high as 37.7 years.

The ages of the fathers of Galton's recent British men of science in 100 cases were distributed as follows:

20—	25—	30—	35—	40—	45—	50—
1	15	34	22	17	7	4

The average was 36. These results as regards this group may very fairly be compared with the results reached concerning the contemporaneous group of 100 from my list which has been separately calculated. It will be seen that in the more mixed and more eminent British group, as might be anticipated, the variations are greater; there are a larger proportion alike of younger and of elderly fathers. In Yoder's group of 39 fathers of men of various nationalities whose average eminence was of higher degree than mine and much higher than Galton's, the numbers are too small to bear much weight; they were distributed as follows, with an average age of 37.78 years:

20—	25—	30—	35—	40—	45—	50—	55—	60—
1	2	10	13	7	3	2	0	1

The most notable point here, as compared with either Galton's results or mine, is the marked deficiency of fathers under 30. It will be noticed that the average age of the fathers in Galton's, mine, and Yoder's groups rises progressively (36, 37.1., 37.78) with the intellectual eminence of the group. It may well be that this is not a casual coincidence. The tendency for the fathers of men of genius to be elderly had, as Yoder points out, already been noted by Lombroso (*Man of Genius*, p. 149).

According to Ansell (*On the Rate of Mortality*, etc., 1874), the average age of fathers of the professional and allied classes (estimated as the length of a generation, *i.e.*, the difference between the age of father and son) is 36.6. An average tells us nothing concerning the range of variation, but it may be observed that this normal average approximates to that obtained in the most nearly normal of the groups of ability we are here able to compare. I have no other data concerning the normal ages of the fathers of the professional and upper classes in modern England, and in any case we could not be sure how far such data could be comparable with that presented by our group of eminent persons which is spread over many centuries. The influence of the age of the fathers in various normal and abnormal groups of the population has been most carefully and elaborately studied by Marro in North Italy (in his *Caratteri dei Delinquenti*, and more recently in *La Pubertà*). Marro regards fathers below the age of twenty-six as belonging to the period of immaturity; the period of maturity is from twenty-six to forty, and the period of decadence from forty-one onwards. He found, among the normal population, that 9 per cent. fathers belonged to the first period, 66 per cent. to the second, and 25 per

cent. to the third. Among the fathers of criminals there was an increase both of immature and of decadent fathers at the expense of the mature, while among the insane fathers there was a similar but more marked increase of immature and decadent fathers. In studying the age of the fathers of school children, Marro found that while children of good intelligence are mostly the offspring of young fathers, those of the highest grade of intelligence are mostly the children of middle-aged and elderly fathers. He found also that the highest proportion of very defectively intelligent children belonged to elderly fathers. Aristotle had long before said that the children of very young or very old people are imperfect in mind or body. We may slightly modify that ancient dictum by saying that the children of such people tend to be abnormal.

I have only been able to ascertain the age of the mother in 86 instances. In these cases it is distributed as follows:

Age of Mother...	Under 20	20–24	25–29	30–34	35–39	40–44	45–49	50
Number of Cases...	1	14	22	23	13	11	1	1
Per cent....	1.1	16	25	26	15	12	1.1	1.1

The average age of the mothers is 31.2 years. Taking the years separately we find that there are only three mothers at the age of 25 and only two at 26, when there is a sudden rise to ten at the age of 27, representing the chief maximum;

there is, however, a secondary maximum (of eight cases) at 30, and again (also of eight cases) at 33. On the whole, it will be seen, the ages of the mothers exhibit the same tendency to late parenthood which marks the fathers. Instead of falling earlier, as we should expect, the age of maximum frequency for the mothers falls within the same five years as for the fathers, and the number of mothers who have reached the sexually advanced age of 40 is nearly as large as the number of those below the age of 25. This is the more remarkable since the predominant tendency of our men of ability to be first-born children would lead us to expect a corresponding predominance of young women among their mothers.

In Galton's 100 cases of mothers of modern British men of science the average age was thirty, and the distribution was as follows:—

Under 20	20—	25—	30—	35—	40—	45—
2	20	26	34	12	5	1

It will be seen that in my list of mothers of British persons of ability, the intellectual eminence being greater than in Galton's, there is a comparative deficiency of young mothers (indeed, for all ages under 35), and a very marked excess of elderly mothers, while the average age also is

higher than in Galton's. Yoder found the average age of the mothers in his group to be 29.8, but he is only able to bring forward twenty cases.

Marro in his study of the ages of the mothers of North Italian criminals, insane, school children, etc., found that the relations that existed between the different groups were very much the same as in the cases of the fathers.

The influence of the age of the parents on the children as regards various kinds of mental and nervous ability has been investigated in California by Mr. R. S. Holway, and I am indebted to Professor Starbuck for enabling me to see Mr. Holway's study in MS. (*The Age of Parents: Its Effects Upon Children*, a thesis presented to the Department of Education, Leland Stanford Junior University, 1901). It was found that, while in most physical qualities the children of mature parents tend to come out best, in mental ability the children of young parents show best at an early age, but rapidly lose their precocity; the elder children who show best tend to be the parents of mature and old parents; the exceptionally brilliant children show a tendency to be the offspring of old parents; the children of elderly mothers show a tendency to superiority throughout.

Ansell found that the normal age of mothers in British professional and allied class (estimated as length of a generation) is as high as 32.3 years, but in the absence of information as to distribution we cannot determine the significance of this result. Among the general population of poor class, Collins (*Practical Treatise of Midwifery*) found that the most frequent age of maternity in Ireland (where early marriages are common) was between 25 and 29, the average age being 27. In Edin-

burgh and Glasgow, however, Matthews Duncan (*Fecundity, Fertility, Sterility, and Allied Topics*, 2nd ed., 1871) found the average age in a similar class of the population to be above 29, the distribution being as follows:

Age	Below 20	20—	25—	30—	35—	40—	45—	50—
Per cent.	2.30	22.62	30.89	23.61	14.76	5.15	.58	.03

It will be seen that this distribution closely corresponds with that of the mothers of Galton's men of science, but shows much fewer cases at the higher ages than does my group.

The conclusion that among the parents of our men of genius there is an abnormally large proportion of elderly mothers is confirmed by the normal data furnished by Roberton (J. Roberton, *Essays and Notes on the Physiology and Diseases of Women*, 1851, p. 183). He found that among 10,000 pregnant women in Manchester, only 4.3 per cent. were over 40, *i.e.*, were at least in their forty-first year.

From a consideration of these various groups of data, among the mothers of highly intellectual children there would certainly appear to be some deficiency of very young mothers, and there is a decided excess of elderly mothers. If, as we may conclude from the marked prevalence of first-born children among our British people of ability, this tendency to a somewhat advanced age of the parents is associated with late marriages, we perhaps have here one of the factors in the prevalence of an excess of boys in the families producing eminent men, since, as Ahlfeld has shown (*Arch. f. Gynäk*, 1876, Bd. IX. p. 448), there is

a gradual though not altogether regular increase with age in the proportion of boys, among *primiparæ* between the ages of 28 and 36, so that while at the earlier age there were at Leipzig 110 boys to 100 girls, at the later age there were 190 boys to 100 girls.

It may be noted that in at least 44 cases the mother was a second or third wife. This group is a somewhat distinguished one, including F. Bacon, R. Boyle, Bunyan, Byron, Chaucer, S. T. Coleridge, and Raleigh. The list is certainly very incomplete. In at least nine cases the father was a second husband.

It is instructive to compare the ages of the parents and to ascertain the degree of disparity. I have only been able to do this in 71 cases. There is a marked tendency to disparity which ranges up to 49 years.* In 55 cases the father was older.

The distribution of the various degrees of disparity may be seen in the following table:

Amount of Disparity	None.	1–4 yrs.	5–9 yrs.	10–14 yrs.	15–19 yrs.	Over 20 yrs.
Number of Cases.	4	24	24	13	3	3

* This very exceptional case was that of the father (an eminent bishop) of Charles Leslie, the nonjuring divine. In this case the father was 79, the mother 30.

The average amount of disparity for the whole of the 71 cases is as high at 7.7 years. It will be seen that the number of cases in which the disparity was at least ten years is equal to a proportion of over 26 per cent.

According to Ansell, the mean difference in ages of husband and wife among the professional classes in England during the nineteenth century was 4.16 years; before 1840 it was only 3.89 years, rising to 4.42 years after 1840. This rise is doubtless connected with the accompanying rise in the age of marriage. It will be seen that the degree of disparity in the case of the parents of eminent British persons is nearly double that of the normal average before 1840, with which only it can be compared. The distribution of the different degrees of disparity is not seen from Ansell's tables, but the frequency of high degrees of disparity in age among the parents of eminent British persons is evidently extreme. In Buda-Pesth a table given by Körösi (though not strictly comparable with the present data) shows that if we take men at ages between 26 and 30, covering the most frequent normal age of marriage in only 3 per cent. cases is the discrepancy of age as much as ten years.

A similar tendency to unusual disparity of age in the parents is found among other nervously abnormal groups. It is so, for instance, among idiots. Some fifteen years ago, the late Dr. Langdon Down, at my suggestion, kindly went through the notes of one thousand cases of idiots who had been under his care, and found that in 23 per cent. cases there was a disparity of age of more than ten years in the parents of the idiot child, the

disparity in many cases being more than twenty-five years.

Disparity of age in the parents is also, as Marro has found (*La Pubertà*, p. 259), unusually prevalent among criminals. Among the parents of North Italian school children he found that the normal proportion of parents both belonging to the same stage of development (immature, mature, or decadent) is 70 per cent.; among the parents of North Italian criminals it is only 63 per cent.

It has occurred to me as possible that the tendency to disparity of age may be one of the factors in the marked prevalence of boys. As, however, it has only happened that in a comparatively small proportion of cases I have exact data regarding the respective numbers of boys and girls in the families of parents in whom the exact amount of disparity is known, it has not been possible to test this point with any certainty. So far as figures give any indication, they indicate that if disparity is a factor in the sexual proportion of the offspring it can only be so in a very slight degree.

On the whole it would appear, so far as the evidence goes, that the fathers of our eminent persons have been predominantly middle-aged and to a marked extent elderly at the time of the distinguished child's birth; while the mothers have been predominantly at the period of greatest vigour and maturity, and to a somewhat unusual extent elderly. There has been a notable deficiency of young fathers, and, still more notably, of young mothers.

V.

CHILDHOOD AND YOUTH.

The frequency of constitutional delicacy in infancy and childhood—Tendency of those who were weak in infancy to become robust later—The prevalence of precocity—University education—The frequency of prolonged residence abroad in early life.

THE first significant fact we encounter in studying the life-histories of these eminent persons is the frequency with which they have shown marked constitutional delicacy in infancy and early life. A group of at least six,—Joanna Baillie, Hobbes, Keats, Newton, Smart, Charles Wesley, with perhaps Locke and Sterne,—were seven months children, or, at all events, notably premature in birth; it is a group of very varied and pre-eminent ability. Not including the above (who were necessarily weakly), at least fourteen are noted as having been very weak at birth, and not expected to live—even given up as dead; in several cases they were, on account of supposed imminent death, baptised on the same day. Altogether as

many as 110 are mentioned as being extremely delicate during infancy or childhood, and the real number is certainly much greater, for this is a point which must frequently be unknown to the biographers, or be ignored by them.

In addition to these, we are told of 103 others (10 per cent.) of our eminent British persons that their health was delicate throughout life, so that we may reasonably assume that in most cases their feeble constitutions were congenital. Thus at the lowest estimate 213 of the individuals on our list,—a very large proportion of those for whom we have data on this question,—were congenitally of notably feeble physical constitution.

Professor A. H. Yoder encountered this fact in the course of his interesting study of the early life of a small group of men of genius (*Pedagogical Seminary*, October, 1894), but failed to realise its significance. He put it aside as due to a desire on the part of biographers to magnify the mental at the expense of the physical qualities of their subjects. There is no evidence whatever in support of this assumption.

The significance of such early delicacy has, however, already been recognised by other writers. Thus Sir W. G. Simpson (*Journal of Mental Science*, October, 1893) points out that illness in children is followed by increased mental development.

It may be noted that a tendency to die at birth is also noted among idiots, who often require resuscitation (Matthews Duncan, *Sterility in Women*, p. 61).

Although it may fairly be assumed that this proportion, at least, of our eminent persons showed signs of physical inferiority at the beginning of life, it must not be assumed that in all cases such inferiority was marked throughout life. The reverse of this is notably the case in many instances. This is not indeed absolutely proved by longevity, frequently noted in such cases, for men of genius have sometimes lived to an advanced age though all their lives suffering from feeble health. But there is a large group of cases (probably much larger than actually appears), in which the delicate infant develops into a youth or a man of quite exceptional physical health and vigor. Bruce, the traveller, is a typical example. Very delicate in early life, he developed into a man of huge proportions, athletic power and iron constitution. Jeremy Bentham, very weak and delicate in childhood, became healthy and robust and lived to 84; Burke, weak and always ailing in early life, was tall and vigorous at 27; Constable, not expected to live at birth, became a strong and healthy boy; Dickens, a puny and sickly child, was full of strength and energy at the age of 12; Galt, a delicate and sensitive child, developed Herculean proportions and energy; Hobbes, very weak in early life, went on gaining strength throughout

life and died at 81; Lord Stowell, with a very feeble constitution in early life, became robust and died at 91. It would be easy to multiply examples, though the early feebleness of the future man of robust constitution must often have been forgotten or ignored, and it is probable that this course of development is not without significance.

I have noted that in a very large number of cases one or both parents died soon after the birth of their eminent child. One small but eminent group,—including Blackstone, Chatterton, Cowley, Newton, Adam Smith, and Swift,—had lost their fathers before birth. We may trace here the frequent presence of inherited delicacy of constitution.

The chief feature in the childhood of persons of eminent intellectual ability brought out by the present data is their precocity. This has indeed been emphasized by previous inquirers into the psychology of genius, but its prevalence is very clearly shown by the present investigation. It has certainly to be said that the definition of "precocity" requires a little more careful consideration than it sometimes receives at the hands of those who have inquired into it, and that when we have carefully defined what we mean by "precocity" it is its absence rather

than its presence which ought to astonish us in men of genius.* Judging from the data before us, there are at least three courses open to a child who is destined eventually to display pre-eminent intellectual ability. He may (1) show extraordinary aptitude for acquiring the ordinary subjects of school study; he may (2), on the other hand, show only average, and even much less than average, aptitude for ordinary school studies, but be at the same time engrossed in following up his own preferred lines of study or thinking; he may, once more (3), be marked in early life solely by physical energy, by his activity in games or mischief, or even by his brutality, the physical energy being sooner or later transformed into intellectual energy. It is those of the first group, those who display an extraordinary aptitude for ordinary school learning, who create most astonishment and are chiefly referred to as proving the "precocity" of genius. There can be no doubt whatever that even in the very highest genius such extraordinary aptitude at a very early age is not infrequently observed. It must also be

* For a summary of investigations into the precocity of genius, see A. F. Chamberlain, *The Child*, pp. 42–6. Cf. also an article by Prof. Sully on "Genius and Precocity," in the *Nineteenth Century*, June 1886, and another by Prof. J. Jastrow (*Journal of Education*, July, 1888) showing that precocity is more marked among persons of transcendent genius than among the merely eminent.

said that it occurs in children who, after school or college life is over, or even earlier, display no independent intellectual energy whatever. It is probable that here we really have two classes of cases simulating uniformity. In one class we have an exquisitely organized and sensitive mental mechanism which assimilates whatever is presented to it, and with development ever seeks more complicated problems to grapple with. In the other class we merely have a sponge-like mental receptivity, without any corresponding degree of aptitude for intellectual organization, so that when the period of mental receptivity is over no further development takes place. The second group, comprising those children who are mostly indifferent to ordinary school learning but are absorbed in their own lines of thought, certainly contains a very large number of individuals destined to attain intellectual eminence. They by no means impress people by their "precocity"; Scott, occupied in building up romances, was a "dunce"; Hume, the youthful thinker, was described by his mother as "uncommon weak-minded." Yet the individuals of this group are often in reality far more "precocious," further advanced along the line of their future activities, than the children of the first group. It is true that they may be divided into two

classes, those who from the first have divined the line of their later advance, and those who are only restlessly searching and exploring; but both alike have really entered on the path of their future progress. The third group, including those children who are only noted for their physical energy, is the smallest. In these cases some powerful external impression,—a severe illness, an emotional shock, contact with some person of intellectual eminence,—serves to divert the physical energy into mental channels. In those fields of eminence in which moral qualities and force of character count for much, such as statesmanship and generalship, this course of development seems to be a favourable one, but in more purely intellectual fields it scarcely seems to lead very often to the finest results. On the whole, it is evident that "precocity" is not a very valuable or precise conception as applied to persons of intellectual eminence. The conception of physical precocity is fairly exact and definite. It indicates an earlier than average attainment of the ultimate growth of maturity. But we are by no means warranted in asserting that the man of intellectual ability reaches his full growth and maturity earlier than the average man. And even when as a child he is compared with other children, his marked superiority along certain lines may

be more than balanced by his apparent inferiority along other lines. It is no doubt true that, in a vague use of the word, genius is very often indeed "precocious"; but it is evident that this statement is almost meaningless unless we use the word "precocity" in a carefully defined manner. It would be better if we asserted that genius is in a large number of cases mentally abnormal from the first, and if we were to seek to inquire precisely wherein that mental abnormality consisted. With these preliminary remarks we may proceed to note the prevalence among British persons of genius of the undefined conditions commonly termed "precocity."

It is certainly very considerable. Although we have to make allowance for ignorance in a large proportion of cases, and for neglect to mention the fact in many more cases, the national biographers note that 292 of the 1,030 eminent persons on our list may in one sense or another be termed precocious, and only 44 are mentioned as not precocious. Many of the latter belong to the second group, as defined above,—those who are already absorbed in their own lines of mental activity,—and are really just as "precocious" as the others; thus Cardinal Wiseman as a boy was "dull and stupid, always reading and thinking"; Byron showed no aptitude for school

work, but was absorbed in romance, and Landor, though not regarded as precocious, was already preparing for his future literary career. In a small but interesting group of cases, which must be mentioned separately, the mental development is first retarded and then accelerated; thus Chatterton up to the age of six and a half was, said his mother, "little better than an absolute fool," then he fell in love with the illuminated capitals of an old folio, at seven was remarkable for brightness, and at ten was writing poems; Goldsmith, again, was a stupid child, but before he could write legibly he was fond of poetry and rhyming, and a little later he was regarded as a clever boy; while Fanny Burney did not know her letters at eight, but at ten was writing stories and poems.

Probably the greatest prodigies of infant precocity among these eminent persons were Cowley, Sir W. R. Hamilton, Wren, and Thomas Young, three of these, it will be seen, being men of the first order of genius. J. Barry and Thirlwall were also notable prodigies, and it would be easy to name a large number of others whose youthful proficiency in learning was of extremely unusual character. While, however, this is undoubtedly the case, it scarcely appears that any actual achievements of note date from early youth. It

is only in mathematics, and to some extent in poetry, that originality may be attained at an early age, but even then it is very rare (Newton and Keats are examples), and is not notable until adolescence is completed.

The very marked prevalence of an early bent towards those lines of achievement in which success is eventually to be won is indicated by the fact that in those fields in which such bent is most easily perceived it is most frequently found. It is marked among the musicians, and would doubtless be still more evident if it were not that our knowledge concerning British composers is very incomplete. It is specially notable in the case of artists. It is reported of not less than 40 out of 64 that in art they were "precocious"; only four are noted as not being specially precocious.

A certain proportion of the eminent persons on our list have followed the third course of early development as defined above, that is to say, they have been merely noted for physical energy in youth. Sir Joseph Banks was very fond of play till 14, when he was suddenly struck by the beauty of a lane; Isaac Barrow was chiefly noted for fighting at school; Chalmers was full of physical activity, but his intellect awoke late; Thomas Cromwell was a ruffian in youth; Thurlow, even at college, was idle and insubordinate;

Murchison was a mischievous boy, full of animal spirits, and was not interested in science till the age of 32; Perkins was reckless and drunken till his conversion. It can scarcely be said than any of these remarkable men, not even Barrow, achieved very great original distinction in purely intellectual fields. In order to go far, it is evidently desirable to start early.

The influence of education on men of genius is an interesting subject for investigation. It is, however, best studied by considering in detail the history of individual cases; generalized statements cannot be expected to throw much light on it. I have made no exact notes concerning the school education of the eminent persons at present under consideration; it is evident that as a rule they received the ordinary school education of children of their class, and very few were, on account of poverty or social class, shut out from school education. A small but notable proportion were educated at home, being debarred from school-life by feeble health; a few, also (like J. S. Mill), were specially educated by an intellectual father or mother.

The fact of university education has been very carefully noted by the national biographers, and it is possible to form a fairly exact notion of the proportion of eminent British men who have

enjoyed this advantage. This proportion is decidedly large. The majority (53 per cent.) have, in fact, been at some university. Oxford stands easily at the head; 41 per cent. of those who have had a university education received it at Oxford, and only 33 per cent. at Cambridge. An interesting point is observed here; the respective influences of Oxford and Cambridge are due to geographical considerations; there is a kind of educational watershed between Oxford and Cambridge, running north and south, and so placed that Northamptonshire is on the eastern side. Cambridge drains the east coast, including the important East Anglian district and the greater part of Yorkshire, whilst Oxford drains the whole of the rest of England as well as Wales. This at once accounts both for the greater number of eminent men who have been at Oxford and for the special characteristics of the two universities, due to the districts that have fed them, the more literary character of Oxford, the more scientific character of Cambridge. The Scotch universities are responsible for 14 per cent. of our eminent men. Trinity College, Dublin, shows 5 per cent. The remaining 4 per cent. have studied at one or more foreign universities. Paris (the Sorbonne) stands at the head of the foreign universities, having attracted as many English students as

all the other European universities put together. This is doubtless mainly due to the fact that Paris was the unquestioned intellectual centre of Europe throughout the long period of the Middle Ages, though the intimate relations between England and France may also have had their influence. With the revival of learning Italian universities became attractive, and Padua long retained its pre-eminence as a centre of medical study. During the seventeenth century the Dutch universities, Leyden and Utrecht, began to attract English students, and continued to do so to some extent throughout the greater part of the eighteenth century. It was not until the nineteenth century that English students sought out the German universities. Douai might perhaps have been included in the list as the chief substitute for university education for the eminent English Catholics who have appeared since the Reformation.

Stated somewhat more precisely, it may be said that of our 975 eminent men, 217 were at Oxford (232 if we include those who had also been at some other university); 177 were at Cambridge (191 if we include those who had also been elsewhere); 76 came from Scotch universities (Edinburgh 28, Glasgow 21, St. Andrews 16, Aberdeen 11); from Trinity College,

Dublin, have come 27 men ; 23 (or 47 if we include those who had previously been at some British university) have been to one or more foreign universities (Paris 23, Leyden 9, Padua 6, Utrecht 3, Louvain 3, Gottingen 2, Bonn 2, Heidelberg 2, etc.).

It may be interesting to compare these results with those obtained by Mr. Maclean in his study of nineteenth century British men of ability. He found that among some 3,000 eminent men, 1,132, or 37 per cent., are recorded as having had an English, Scotch or Irish university education. Of these 1,132, 37 per cent. were at Oxford, 33 per cent. at Cambridge, 21 per cent. at Scotch universities, 7 per cent. at Dublin, and the small remainder were scattered among various modern institutions. It will be seen that university education plays a comparatively small part in this group. This may be in part due to the lower standard of eminence, but it may also be due to the wide dissemination of the sources of knowledge. In no previous century would so encyclopædic a thinker as Herbert Spencer have been able to ignore absolutely the advantages of university centres.

In America also, as might be expected, a college education has not been received by the majority of able men. Thus Prof. E. Dexter ("High Grade Men in College and Out," *Popular Science Monthly*, March, 1903) shows that not more than 3,237 out of 8,602 eminent Americans of the nineteenth century (or 37 per cent., exactly the same proportion as Mr. Maclean found in Great Britain) are College graduates; those who reach a high grade of scholarship are, however, more likely to become eminent than those of low grade.

While the fact of university education is easily ascertained, it is less easy to define its precise significance. The majority of our men of pre-eminent intellectual ability have been at a university; but it would be surprising were it otherwise, considering that the majority of these men belong to the class which in ordinary course receives a university education. It would be more to the point if we knew exactly what influence the universities had exerted, but on this our present investigation throws little light. In a considerable number of cases, at least, the university exerted no favourable influence whatever, the eminent man subsequently declaring that the years he spent there were the most unprofitable of his life; this was so even in the case of Gibbon, whose residence at Oxford might have been supposed to be very beneficial, for at the age of 14 he had already been drawn toward the subject of his life task. In a large number of cases, again, the eminent man left the university without a degree, and in not a few cases he was expelled. It is evident, however, on the whole, that university life has not been unfavourable to the development of intellectual ability, and that while our eminent men do not appear to have been usually subjected to any severe educational discipline they have been in a good

position to enjoy the best educational advantages of their land and time.

Professor Sully in a study of the influence of education on genius, with special reference to men and women of letters ("The Education of Genius," *English Illustrated Magazine*, January, 1891), had already reached conclusions in harmony with those here set forth: "It cannot be said that the boys who afterwards proved themselves to have been the most highly gifted shone with much lustre at school, or found themselves in happy harmony with their school environment. The record of the doings of genius at college is not greatly different. No doubt a number of the ablest men have won university distinctions. In a few cases, indeed, a thoroughly original man has carried everything before him. At the same time it may safely be said that a very small proportion of the men of genius who have visited our universities have presaged their after fame by high academic distinction. Thus it has been computed that, though Cambridge has been rich in poets, only four appear in her honours lists. (See Article on "Senior Wranglers," *Cornhill Magazine*, vol. 45, p. 225). In many cases we have too clear signs of a disposition to rebel against the discipline and routine of college life. We find further that more than one distinguished men have expressed in later life their low estimate of university training. The conclusion that seems to be forced on us by the study of the lives of men of letters is that they owe a remarkably small proportion of their learning to the established machinery of instruction."

If this is not a very decisive result to

reach, there is another less recognized method of educational development which occurs so frequently that I am disposed to attach very decided significance to it. I refer to residence in a foreign country during early life. The eminent persons under consideration have indeed spent a very large portion of their whole lives abroad, whether from inclination, duty, or necessity (persecution or exile), and it might be interesting to ascertain the average period of life spent by a British man of genius in his own country. I have not attempted to do this, but I have invariably noted the cases in which a lengthened stay abroad has occurred during the formative years of childhood or youth. I have seldom knowingly included any period of less than a year; in a few cases I have included lengthened stays abroad which were made about the age of 30, but in these cases those periods of foreign residence exerted an unquestionable formative influence. I have excluded soldiers and sailors altogether (as well as explorers), for in their case absence from England at a very early age has been an almost invariable and inevitable incident in their lives, and has not always been of a kind conducive to intellectual development. Nor have I included the very numerous cases in which transference from one

part of the British Islands to another has sufficed to exert a stimulating influence of the greatest importance. With these exceptions, we find that as many as 371 of the eminent persons on our list (nearly as large a proportion as received a university education), during early life, and in all but a few cases before the age of 30, have spent abroad periods which range from about a year, and in very many cases have extended over seven years, up to extreme cases, like that of Caxton, who went to Bruges in early life and stayed there for 30 years; or Buchanan, who went to France at the age of 14 and was abroad for nearly 40 years. It is natural that France should be the country most frequently mentioned as the place of residence, but France is closely followed by other countries, and a familiarity with many lands, including even very remote and scarcely accessible countries, is often indicated. It may further be noted that this tendency to an association between high intellectual ability and early familiarity with foreign lands is by no means a comparatively recent tendency. It exists from the first; the earliest personage on our list, St. Patrick, was kidnapped in Scotland at the age of 16, and conveyed over to Ireland; it seems, indeed, that in the nineteenth century the tendency became less marked, yielding to the

average modern Englishman's hasty and unprofitable method of travelling. In any case, however, it is evident that there has been a very marked tendency among these men of pre-eminent ability to familiarize themselves in the most serious spirit with every aspect of nature and life. It is equally marked among the men of every group, among poets and statesmen, artists and divines. It is not least marked in the case of men of science from the days of Ray onwards; if it had not been for the five years on the *Beagle* we should scarcely have had a Darwin, and Lyell's work was avowedly founded on his constant foreign tours. In a notable number of cases this element comes in at the earliest period of life, the eminent person having been born abroad and spent his childhood there.* The presence of so large a number of our eminent men at a university may be in considerable measure merely the accident of their social position. The persistence with which men of the first order of intellect have sought out and studied unfamiliar aspects of life and nature, or have profited by such aspects when presented by circumstances, indicates a more active and personal factor in the evolution of genius.

* It may be noted that at least twelve of our eminent persons—seemingly a large proportion—belonged on one side or the other to West Indian families, whether or not they were born in the West Indies.

VI.

MARRIAGE AND FAMILY.

Celibacy—Average age at marriage—Tendency to marry late—Age of eminent women at marriage—Apparently a greater tendency to celibacy among persons of ability than among the ordinary population—Fertility of marriage—Fertility and sterility of eminent persons alike pronounced—Average size of families—Proportion of children of each sex.

WE have some information concerning the status as regards marriage of 988 of the eminent persons on our list. Of these, 79, being Catholic priests or monks (twelve of them since the Reformation), were vowed celibates.* Of the others, 177 never married. We thus find that 25.9 per cent. never married, or, if we exclude the vowed celibates, 19.4 per cent. It must of course be remembered that a certain though not considerable proportion of the unmarried were under fifty at death, and some of these would certainly have married had they survived. It

* One or two priests who belonged to the early centuries before the celibacy of ecclesiastics was firmly established and who consequently married, are not of course included.

may be added that of the women considered separately, about two-thirds were married, though several of them (especially actresses) who were unmarried formed *liaisons* of a more or less public character and in a few cases had several children.

It must not be supposed that all these eminent men who lived long lives in celibacy were always so absorbed in intellectual pursuits that the idea of matrimony never occurred to them. This was not the case. Thus we are told of Dalton, that the idea had crossed his mind, but he put it aside because, he said, he "never had time." In several cases, as in that of Cowley, the eminent man appears really to have been in love, but was too shy to avow this fact to the object of his affections. Reynolds is supposed only once to have been in love, with Angelica Kauffmann; the lady waited long and patiently for a declaration, but none arrived, and she finally married another; Reynolds does not appear to have been overmuch distressed, and they remained good friends. These cases seem to be fairly typical of a certain group of the celibates in our list; a passionate devotion to intellectual pursuits seems often to be associated with a lack of passion in the ordinary relationships of life,

while excessive shyness really betrays also a feebleness of the emotional impulse. In the case of many poets who have adored their mistresses with passionate fervour in verse it would appear that there has often been no accompanying fervour in the love-making of real life. Sir Philip Sidney, even though he was counted the paragon of his time, with all his sweet sonnets never shook the virtue of his Stella (Lady Penelope Rich), who yet eloped some years later with another man who was not a poet. Even in many cases in which marriage occurs, it is easy to see that the relationship was rooted in the man's intellectual passion.

The average age at marriage among the 503 men on the list concerning whom I have information on this point is 31.1 years, the most frequent age being 26 years. The distribution is as follows:

Age	Under 20	20—	25—	30—	35—	40—	45—	50—	55—
No. of cases .	16	88	139	110	66	43	28	9	4
Per cent. . .	3	17	27	22	15	8	5	1.7	.7

I have ascertained the ages at marriage of the fathers of the eminent persons on my list (not including the fathers who are themselves of

sufficient eminence to be included in the list) in 73 cases; they are distributed as follows:—

Under 20	20—	25—	30—	35—	40—	45—	50—
3	7	30	18	9	4	1	1

The most frequent age of marriage of the fathers is 25, but the average is 30 years. It would thus appear that while both British men of genius and their fathers tend to marry at an abnormally late period, the former marry, if anything, even later than their fathers.

If, however, in the 54 cases in which data are forthcoming we compare the age at marriage of the individual man of genius with that of his (not eminent or less eminent) father the results are not quite concordant. It is found that five married at the same age as their fathers; while 29 were younger and only 20 older. The deviations from the paternal example are often very considerable in either direction, and it can scarcely be said that the data before us suffice for the conclusion that our British men of genius have married later than their fathers.

If we compare the distribution of the frequency of the marriage-age among British men of genius and their fathers with the general population, the contrast is

very striking. In England generally 57 per cent. of the men who marry before the age of 30 marry between the ages of 20 and 25, a larger proportion than in any other European country. The curve for the British men of genius much more nearly resembles that for the general population in Sweden or in France, where of all European countries marriage is latest. It is, however, of more significance to compare British men of genius with the professional classes of their own land, avoiding also the fallacy of including second or subsequent marriages. Ansell found that the average age of marriage for clerical, legal and medical bechelors in the nineteenth century before 1840 was about 28 years. There is thus a small but distinct delay in the age of marriage among men of genius, a delay which would be still more marked if we can assume that the gradual tendency, noted by Ansell as in progress during the nineteenth century, for marriage to take place later among the professional classes, may be pushed back to the previous century. It would be further marked, if the comparison were made more strictly between professional class men of genius and ordinary professional class men, by omitting from the men of genius those of aristocratic and plebeian class, among both of whom I find that marriage has frequently taken place very early.

While not disputing the statement of Ansell that during the nineteenth century there was a progressive tendency among the professional classes for marriage to take place at a later age, I am by no means convinced that we can push this tendency back and assert that in earlier centuries marriage among the same classes took place very early. This seems highly improbable.

It is much more likely that while there have been fluctuations from time to time, the age of marriage has not on the whole greatly changed, so far as the professional classes are concerned, for many centuries past. I am confirmed in this opinion by an examination of the age of marriage which prevailed in various branches of my own ancestry (belonging to the middle and upper middle class) during the seventeenth and eighteenth centuries; the general average was 29, and taking the seventeenth century figures separately (though here the numbers are few) it was decidedly higher. The average age, it will be seen, lies between that which I have found for the fathers of our eminent British persons and that found by Ansell for the British professional classes generally before 1840.

I find in the marriage "allegations" of the Archdeacon of Essex for the years 1791–97, where the age "about" is given, that the average for 20 bachelors is 26 years. The exact social class is not, however, obvious.

It remains probable that when we take a sufficiently high standard of intellectual eminence the age of marriage is somewhat later than that of the professional classes generally, but it would scarcely appear that the difference is considerable.

The married women among the British people of intellectual eminence concerning whom we have definite information, form but a small group of 26 persons, a group too small to generalise about. Their average age at marriage was 28 years, and the most frequent

ages of marriage were 22 and 40. The distribution is as follows :—

Age . .	Under 20	20—	25—	30—	35—	40-
Number of Persons .	3	9	4	3	3	4

Although the numbers are so small, it is probably not an accident that the most frequent ages of marriage should be 22 and 40 years. If we take into account the ages before 30 only, we note a marked tendency to early marriage more marked than among English women of the professional classes, more marked even than among the general population. But after the age of 24 there is a sudden and extraordinary fall, the ages of 26 and 27 are unrepresented altogether, and, still more remarkable, the slight rise which eventually takes place is postponed to the ages of 40 and 41, towards the end of sexual life.

The interpretation of this curious curve is, however, fairly obvious. The claims of the reproductive and domestic life are in women too preponderant and imperious to be easily conciliated with the claims of a life of intellectual labour. The women who marry at the

period of greatest general and sexual activity, between 25 and 30, tend either to have their intellectual activities stifled, or else to be seriously handicapped in attaining eminence. The women, on the other hand, who have either married very early and then escaped from, or found a *modus vivendi* with, domestic and procreative claims, or else have been able to postpone the sexual life and its dominating claims until comparatively late in life, enjoy a very great advantage in attaining intellectual eminence.

Thus it is that among British women of genius very few marriages take place during the period of great reproductive energy; the large majority of such marriages fall outside the period between 23 and 34 years of age. In the majority of cases marriage took place before this period, the relationship, from one reason or another, being very often dissolved not long afterwards; but in a very considerable proportion of cases, marriage never took place until after this period. Thus, Fanny Burney married at 41, Mrs. Browning at 40, Charlotte Brontë at 38, while George Eliot's relationship with Lewes was formed at about the age of 36; these names include the most eminent English women of letters. It would thus appear that there is a ten-

dency for the years of greatest reproductive activity to be reserved for intellectual development, by accelerating or retarding the disturbing emotional and practical influences of real life. This tendency might still be beneficial, even when the best work was not actually accomplished until after a late marriage.

Ansell found the age of marriage of English spinsters belonging to the professional classes, previous to 1840, to be 24.75 years, while after 1840 it was 25.53. Mrs. Sidgwick found the age of marriage of the sisters of Oxford and Cambridge women students, in exact agreement with Ansell, to be 25.53 years, while the age of marriage of the students themselves was 26.70. Among the general population in England the chief age of marriage for women is between 20 and 25. At the end of the eighteenth century the average age ("about") of 19 spinsters in the marriage allegations of the court of the Archdeacon of Essex was 23.5 years.

We have now to consider more minutely the status as regards marriage of our British men and women of eminent intellectual ability. When we eliminate the 79 individuals who had taken vows of celibacy and the 177 others who are definitely known not to have married, we have 774. Of these, 732 are definitely known to have married, while the remaining 42 are doubtful. It is probable that the doubtful may be equally divided between the married and

the unmarried. We cannot assume that the same proportion of married and unmarried prevails among them as among the known group, for it would appear that in many cases the omission of the mention of marriage is to be regarded as a tacit statement on the biographer's part that the subject was not married. If this is admitted we must conclude that in the whole body of 1,030 persons, including the vowed celibates, 277 never married, that is to say a proportion of 26.8 per cent. If we omit the vowed celibates, the proportion is reduced to 20 per cent. If we leave out of account alike the vowed celibate group and the small dubious group, and consider only those remaining persons, 909 in number, of whom we have definite knowledge, the percentage of those who never married is found to be 19.4. If we consider separately the most recent group, *i.e.*, those whose names are contained in the Supplement to the *Dictionary of National Biography*, the results are not widely different; the proportion of the unmarried being in the ratio of nearly 18 per cent.

It is natural to ask the question whether the tendency to remain unmarried is greater among our men of ability than among the general population. It is, however, obviously difficult to answer the question with any precision, because we must of course compare the men

of ability with normal persons not only of the same class but the same period. A consideration of the results seems to suggest that there is a somewhat greater tendency to celibacy among men belonging to the very highest class of genius than there is among the rank and file of able men, but that so far as the latter are concerned the tendency to celibacy is not notably greater than among the ordinary population of the same social class. We see that the most recent group of our eminent British persons, which probably shows a somewhat lower general level of eminence, also shows a somewhat slighter tendency to celibacy. It is probable that among men of eminent ability the tendency to celibacy has always been slightly, but only slightly, greater than among the general population of the same social class.

This conclusion is confirmed by an enquiry made by Professor E. L. Thorndike ("Marriage among Eminent Men," *Popular Science Monthly*, August, 1902). He sought to ascertain the proportion of married individuals among the 1,000 most eminent men in a biographical compilation of contemporary Americans entitled *Who's Who in America*. The standard of ability here demanded is necessarily very much lower than that of the persons in my list. It was found that of those who had reached the age of 40, 12 per cent. were celibate, as against 15 per cent. for the most recent group (excluding the women) on my list, nearly all of whom had far passed the age of 40. For the whole male population over the age of 40, in the United States, Professor Thorndike states, the proportion of celibates is from 11 to 7 per cent. decreasing with age.

Of the 753 persons whom we may reasonably

suppose to have married, 548 are definitely stated to have had children, 112 are definitely stated to have been childless, the remaining 93 are doubtful. If we assume that two-thirds of this doubtful remainder may be included among the fertile group, we may say that 19 per cent. of eminent British men and women who married have remained sterile. If, however, we only take into consideration those cases concerning which we have definite information, we find that the proportion of the sterile is about 17 per cent. This is certainly less than the real proportion for the whole married group, for there can be little doubt that in a large number of cases the biographers have made no mention of children simply because there were no children to mention. In many cases, I have been able to verify this statement that the merely negative absence of information meant a positive absence of children, though this is not invariably the case. We may assume that the real proportion of individuals whose marriages were sterile, for the whole of our married group, is more nearly 19 than 17 per cent.

If we consider the 55 women separately, we find that one was a vowed celibate, and 19 others remained unmarried, while of the 35

who were married, 14 certainly had children and 21 apparently had no children. A few of the actresses occupy an uncertain borderland between the married and the unmarried. They have here, however (according to the same rule as has been adopted with the men), been regarded as unmarried, even though they had a recognised family, whenever they were not generally recognised as married.

The number of sterile persons (like the number of unmarried persons) among our eminent men and women must be regarded as, in all probability, an abnormally large proportion in comparison with the general population of the same period and class. It must be borne in mind that the figures which have been given do not represent the proportion of fertile and sterile marriages, but the proportion of *persons* who have proved fertile and sterile in marriage. As many of our eminent persons entered into two or more marriages during life and very frequently only proved fertile in one or in none, it is evident that if we were to consider the ratio of fertile and sterile marriages, instead of the ratio of fertile and sterile persons in marriage, the prevalence of sterility would be much more marked.

Simpson found that the proportion of sterile marriages in two Scotch seafaring and agricultural villages was about 10 per cent., while in the British peerage he found that it was about 16 per cent. (J. Y. Simpson, *Obstetric Works*, vol. 1. pp. 323, *et seq.*)

Professor Karl Pearson, manipulating the data furnished by Howard Collins, has found that during the

early part of the past century among the middle and upper classes chiefly of British race, or belonging to the United States—a class fairly comparable to those in the present group—the total sterility was about 12 or 13 per cent., rather less than half of this (*i.e.*, about 6 per cent.) being due to what may be termed "natural sterility," while the remainder (*i.e.*, 6 or 7 per cent.) must be set down to artificial restraints on reproduction. At the present day in the United States sterility has greatly increased, and Dr. Engelmann finds it to exist in 20 per cent. of marriages in St. Louis and Boston in dispensary practice, and in 23 per cent. among the higher classes in private practice, although among the foreign elements in the population the proportion is very much lower. In New Zealand also, at the other side of the world, sterility is at the present day very marked. Here the methods of registration enable us to form an approximate estimate of the proportion of childless marriages among a population of somewhat mixed British race with a high standard of living, and the proportion of marriages in which there is no surviving child at the father's death is about 16 per cent.; but it must be borne in mind that we have to allow for the early death of the children in some cases, as well as for the early death of the father. We have also to remember that this increase of sterility is a modern phenomenon, and that the artificial restraint of reproduction to which it is in large part, if not mainly, due is of recent development. All the indications point to the conclusion that the sterility of our eminent men is greater than that of their contemporaries of the same social class.

I may add that among the 62 eminent married men

on my list who appear in the Supplement to the *Dictionary of National Biography* and therefore constitute the most recent group, the proportion who are sterile appears to be in about the ratio of nearly 20 per cent., which very closely approximates to the general average.

In Galton's group of modern British men of science the proportion of sterile marriages was higher; there were no children in one out of every three cases.

It is somewhat remarkable that, although the number of infertile marriages is so large, the average fertility of those marriages which were not barren is by no means small. We have fairly adequate information in the case of 281 of these eminent men. I have not included those cases in which the biographer is only able to say that there were "at least" so many children, nor have I knowingly included the offspring of second or subsequent marriages. Whether the number of children represents gross or net fertility, it is, unfortunately, in a very large proportion of instances, quite impossible to say. It is probable that in a certain proportion of cases only the net fertility, *i.e.*, the number of children who survived infancy and childhood, has been recorded. It is therefore probable that the average number of children in these fertile families, which is 4.8, must be considered as slightly below the real gross fertility. The average reached is not far from the normal

average, and very decidedly below that of the families from which the men of genius spring.

With regard to the distribution of families of different sizes, the results, as compared with the figures already given, are as follows:

Size of Family	1	2	3	4	5	6	7	8
Normal Families	12.2	14.7	15.3	14.1	11.1	8.6	7.8	6.3
Genius-producing Families	6.9	9.4	10.6	9.4	10.1	10.4	8.9	6.7
Families of Men of Genius	14.2	16.7	10.3	12	11.3	7.4	8.5	4.6

Size of Family	9	10	11	12	13	14	over 14
Normal Families	3.9	2.7	1.4	1.0	.5	.2	.1
Genius-producing Families	5.7	4.7	4.9	4.4	2.2	1.9	3.4
Families of Men of Genius	5.3	2.1	2.1	.7	2.1	1.0	1.0

Allowing for certain irregularities due to the insufficient number of cases, the interesting point that emerges is the return towards the proportions that prevail in normal families; it will be seen that in all but a few cases the families of men of genius differ from genius-producing families by approximating to normal families. It must be remembered that in neither of our groups are the data absolutely perfect, but as they stand they confirm the conclusion already suggested that men of genius

belong to families in which there is a high birth-rate, a flaring up of procreative activity, which in the men of genius themselves subsides towards normal proportions. The families of the men of genius seem to differ chiefly from normal families in showing a greater tendency to variation; there are more very small families, there are more very large families.

It will be noticed that the families of sizes ranging between three and six, both inclusive, are unduly few. It might be supposed that this is due to the artificial limitation of families, more especially since, in Professor Pearson's opinion, the normal families themselves show a deficiency in those groups probably due to this cause. I am, however, inclined to doubt whether that is so in the case of families of men of genius, although to a small extent it may be so. It is possible that from the present point of view the group may not be homogeneous, but made up in part of men with feeble vitality and a tendency to sterility, and in part of men with a tendency towards unusual fecundity, thus leading to a deficiency of medium-sized families.

The relationship which has been found to exist between our British genius-producing families, and the families which the men of genius themselves produce (*i.e.*, the increased fertility followed in the next genera-

tion by diminished fertility), does not represent a novel result. It had already been found by Galton (*English Men of Science*, p. 38) in his group of modern British men of science. Eliminating sterile marriages he found that the average size of the families of the men of science was 4.7 children, almost exactly the same size as we have found for the whole group of British men of genius. Galton, however, only took living children into account.

There would appear to be a considerable resemblance between the fertility of genius families and of insane families. We see that our eminent British persons belong to families of probably more than average fertility, that they themselves produce families of probably not more than average size, and with an abnormal prevalence of sterility. In France, Ball and Régis, confirmed by Marandon de Montyel, appear to have found reason for a similar conclusion regarding the insane. They state that natality is greater among the ascendants of the insane than in normal families, but afterwards it is the same as in normal families, while they also note the prevalence of sterility in the families of the insane. The question, however, needs further investigation (Toulouse, *Causes de la Folie*, p. 91).

In the case of 278 families of our British men of genius it has been possible to ascertain the number of children of each sex. This is found to be over 105 boys to 100 girls, a somewhat higher proportion of boys than has prevailed in Great Britain during the past century, but, in accordance with the results we have reached concerning the size of the families of our men

of genius, very much closer to the normal average than are the sexual proportions prevailing among the families from which the men of genius spring. If, however, I am right in supposing that in a certain proportion of our cases the biographers have stated not the gross fertility, but only the net fertility (or the surviving children), we are not entitled to expect so close an approximation to the proportions at birth, since the preponderance of boys begins to vanish immediately after birth. The figures thus suggest that the families of men of genius show the same tendency to excess of boys, which we have already seen to be clearly marked in the case of the families producing men of genius. The data are too few to indicate whether there is any corresponding excess of girls in the families of women of genius.

VII.

DURATION OF LIFE.

The fallacy involved in estimating the longevity of eminent men—The real bearing of the data—Mortality at different ages.

IT has long been a favourite occupation of popular writers on genius to estimate the ages at which famous men have died, to dilate on their tendency to longevity, and to conclude, or assume, that longevity is the natural result of a life devoted to intellectual avocations. The average age for different groups, found by a number of different inquirers, varies between sixty-four and seventy-one years. One writer, who finds this highest age for certain groups of eminent men of the nineteenth century, argues that here we have a test from which there is no appeal, proving the pre-eminence of the nineteenth century over previous centuries, and its freedom from "degeneration." It did not occur to this inquirer to ask at what age the famous men of earlier centuries died. I have done so in the case of a small group of ten eminent

men on my list, dying between the fourth and the end of the thirteenth centuries—including, I believe, nearly all those in my list of whose dates we have fairly definite information during this period—and I find that their average age is exactly seventy-four years. So that, if this test means anything at all, the freedom of the nineteenth century from "degeneration" is by no means proved.

In reality, however, it means nothing. If genius were recognisable at birth there would be some interest in tracing the course of its death-rate. But it must always be remembered that when we are dealing with men of genius, we are really dealing with *famous* men of genius, and that though genius may be born, fame is made—in most fields very slowly made. Among poets, it has generally been found, longevity is less marked than among other groups of eminent men, and the reason is simple. The qualities that the poet requires often develop early; his art is a comparatively easy one to acquire and exercise, while its products are imperishable and of so widely appreciated a character that even a few lines may serve to gain immortality. The case of the poet is, therefore, somewhat exceptional, though even among poets only a few attain perfection at an early age. In nearly every other

field the man of genius must necessarily take a long period to acquire the full possession of his powers, and a still longer period to impress his fellowmen with the sense of his powers, thus attaining eminence. In the case of the lawyer, for instance, the path of success is hemmed in by tradition and routine, every triumph is only witnessed by a small number of persons, and passes away without adequate record; only by a long succession of achievements through many years can the lawyer hope to acquire the fame necessary for supreme eminence, and it is not surprising that of the eminent lawyers on my list only five were under sixty at death. Much the same is true, though in a slightly less marked degree, of statesmen, divines and actors.

It is, therefore, somewhat an idle task to pile up records of the longevity of eminent men of genius. They live a long time for the excellent reason that they must live a long time or they will never become eminent. It is doubtless true that men of genius,—mostly belonging to the well-to-do classes, and possessing the energy and usually the opportunities necessary to follow intellectual ends of a comparatively impersonal and disinterested character,—are in a far more favourable position for living to an advanced age than the crowds who struggle more or less

desperately for the gratification of personal greeds and ambitions, which neither in the pursuit nor the attainment are conducive to peaceful and wholesome living. This may well be believed, but it is hardly demonstrated by the longevity of eminent men.

At the same time it is of some interest to note the ages of the eminent persons on our list at death. Though the facts may have little significance in themselves, they have a bearing on many of the other data here recorded. Excluding women, and including only those men whose dates are considered by the national biographers to be unquestionable, the ages of eminent British men at death range from Chatterton the poet, at seventeen, to Sir A. T. Cotton the man of science, at ninety-six. They are distributed as follows in five-year age-periods :—

Age at Death .	under 20	20—24	25—29	30—34	35—39	40—44
Men of Genius	1	2	6	14	15	32

Age at Death .	45—49	50—54	55—59	60—64	65—69	70—74
Men of Genius .	50	55	76	90	130	139

Age at Death .	75—79	80—84	85—89	90 and over
Men of Genius .	100	65	46	20

If we consider the number for each year separately, certain points emerge which are disguised by the five-year age-period, though the irregularities become frequently marked and inexplicable. A certain order, however, seems to be maintained. There is scarcely any rise from twenty-seven to thirty-eight, and even at forty-five only three individuals died; but, on the whole, there is a slow rise after thirty-eight, leading to the first climax at forty-nine, when sixteen individuals died; this climax is maintained at a lower level to fifty-three, when there follows a fall to a level scarcely higher than that which prevailed ten and more years earlier. This lasts for three years; then there is a sudden rise from seven deaths at fifty-six, to twenty-five deaths at fifty-seven, and this second climax is again maintained at a somewhat lower level to the age of sixty-seven, when the highest climax is attained, with thirty-four deaths. Thereafter the decline is extremely slow but steady, not becoming accelerated until after eighty. Each climax is sudden, and preceded by a fall.

A noteworthy point here seems to be the very low mortality between the ages of fifty-three and fifty-seven. It seems to confirm Galton's conclusion, based on somewhat similar data, that a group of men of genius is in part made up of

persons of unusually feeble constitutions and in part of persons of unusually vigorous constitutions. After the first climax at forty-nine the feeble have mostly died out. The vigorous are then in possession of their best powers and working at full pressure; fifty-seven appears to be a critical age at which exhaustion and collapse are specially liable to occur. The presence of these two classes,—the abnormally weak and the abnormally vigorous,—would be in harmony with the explanation I have already ventured to offer of the deficiency of medium-sized families left by our men of genius.

The age of the women at death is ascertainable in fifty-one cases. The average is slightly over sixty-two years. As among the men, there would seem to be among them a small group tending to die early. The age-distribution arranged in periods of five years is as follows:

Age at Death	30—34	35—39	40—44	45—49	50—54
Women of Genius	2	4	2	2	2

Age at Death	55—59	60—64	65—69	70—74	75—79
Women of Genius	5	4	7	4	4

Age at Death	80—84	85—89	90 and over	
Women of Genius	8	4	3	

VIII.

PATHOLOGY.

Relative ill-health—Consumption—The psychology of consumptives—Gout—Its extreme frequency in men of ability—The possible reasons for the association between gout and ability—Other uric acid diseases—Asthma and angina pectoris—Insanity—The question of its significance—Apparent rarity of grave nervous disease—Frequency of minor nervous disorders—Stammering—Its significance—High-pitched voice—Spasmodic movements—Illegible Handwriting—Short sight—Awkwardness of movement.

It has already been noted (p. 134) that at least 10 per cent. of our eminent British persons suffered from a marked degree of ill-health, amounting to more than minor discomfort, during the years of their active lives. It is of some interest to observe how these persons are distributed among the various chief classes of ability. This distribution appears to be as follows:

Soldiers and sailors . .	3 per cent.
Statesmen, etc. . .	7 ,, ,,
Men of science . .	11 ,, ,,
Lawyers . . .	13 ,, ,,
Men of letters . . .	15 ,, ,,

Artists	16 per cent.
Poets	16 „ „
Divines	17 „ „

This marked prevalence of ill-health among divines had already been noted by Galton (*Hereditary Genius*, pp. 255 *et seq.*). He analysed the 196 biographies contained in Middleton's *Biographia Evangelica*, and came to the conclusion that there is "a frequent correlation between an unusually devout disposition and a weak constitution." He found that over 13 per cent. at least were "certainly invalids," while a large number of the others were ailing. He found also that of the 12 or 13 who were alone stated to be decidedly robust, 5 or 6 were irregular in their youth, while on the other hand only 3 or 4 divines are stated to have been irregular in their youth, who were not also men of notably robust constitutions.

In a large proportion of cases no reference is made by the national biographers to the diseases from which their subjects suffered, nor to the general state of health. This, however, we could scarcely expect to find, except in those cases in which the state of health had an obvious influence on the life and work of the eminent person. In most of these exceptional cases it is probable that the biographers have duly called attention to the facts, and though the information thus attained is not always precise,—in part owing to the imperfection of the knowledge

transmitted, in part to the medical ignorance of the biographers,* and in part to the deliberate vagueness of their reference to a "painful malady," etc.,—it enables us to reach some very instructive conclusions concerning the pathological conditions to which men of genius are most liable.

Putting aside the cases of delicate health in childhood, with which I have already dealt in a previous section, the national biographers state the cause of death, or mention serious diseased conditions during life, in some 400 cases.

It is natural to find that certain diseased conditions which are very common among the ordinary population are also very common among men of pre-eminent intellectual ability. Thus, a lesion of the vessels in the brain (the condition commonly described as paralysis, apoplexy, effusion on the brain, etc.) is a very common cause of death among the general population, and we also find that it is mentioned 44 times by the national biographers.

Consumption, also so prevalent among the general population, occurred in at least 40 cases. While many of the consumptive men of genius lived to past middle age, or even reached a fairly

* Thus one of the national biographers informs us that a recent Archbishop of Canterbury had an attack of catalepsy, which is a rare and severe form of hysteria; he probably meant apoplexy.

advanced age, the disease is responsible for the early death of most of the more eminent of those men of genius who died young—of Keats in poetry, of Bonington and Girtin and Beardsley in art, of Purcell (probably) in music. Some appear to have struggled with consumptive tendencies during a fairly long life; these have usually been men of letters, and have sometimes shown a feverish literary activity, their intellectual output being perhaps as remarkable for quantity as for quality, as we may observe in Baxter and in J. A. Symonds. But Sterne in literature, and Black, Priestley, Clifford and other eminent men of science are to be found among the consumptives. It is evident that the disease by no means stands in the way of any but the very highest intellectual attainments, even if it is not indeed actually favourable to mental activity.*

There is, however, a pathological condition which occurs so often, in such extreme forms, and in men of such pre-eminent intellectual ability,

* The psychology of the consumptive,—marked by mental exaltation, hyper-excitability, the tendency to form vast plans and to exert feverish activity in carrying them out, with, at all events in the later stages, egoism, indifference, neurasthenia,—has been studied by Maurice Letulle (*Archives Générales de Médecine*, 1901); a summary of his study will be found in the *British Medical Journal*, 4 May, 1901. An interesting symposium on the mental state of the consumptive will also be found in the *Archives de Neurologie*, Jan. 1903.

that it is impossible not to regard it as having a real association with such ability. I refer to gout. This is by no means a common disease, at all events at the present day. In ordinary English medical practice at the present time, it may safely be said that cases of typical gout seldom form more than one per cent. of the chronic disorders met with. Yet gout is of all diseases that most commonly mentioned by the national biographers; it is noted as occurring in 53 cases, often in very severe forms. We have, indeed, to bear in mind that gout has been recognized for a long time, and that it is moreover a disease of good reputation. Yet, even if we assume that it has been noted in every case in which it occurs among our 1,030 eminent persons (an altogether absurd assumption to make), we should still have to recognize its presence in five per cent. cases. Moreover, the eminence of these gouty subjects is as notable as their number. They include Milton, Harvey, Sydenham, Newton, Gibbon, Fielding, Hunter, Jonhson, Congreve, the Pitts, J. Wesley, Landor, W. R. Hamilton and C. Darwin, while the Bacons were a gouty family. It would probably be impossible to match the group of gouty men of genius, for varied and pre-eminent intellectual ability, by any combination of non-gouty indi-

viduals on our list. It may be added that these gouty men of genius have frequently been eccentric, often very irascible,—"choleric" is the term applied by their contemporaries,—and occasionally insane. As a group, they are certainly very unlike the group of eminent consumptives. These latter, with their febrile activities, their restless versatility, their quick sensitiveness to impressions, often appear the very type of genius, but it is a somewhat feminine order of genius. The genius of the gouty group is emphatically masculine, profoundly original; these men show a massive and patient energy which proceeds "without rest," it may be, but also "without haste," until it has dominated its task and solved its problem.

Sydenham, the greatest of English physicians, who suffered from gout for thirty-four years, and wrote an unsurpassed description of its symptoms, said in his treatise, *De Podagra*, that "it may be some consolation to those sufferers from the disease who, like myself and others, are only modestly endowed with fortune and intellectual gifts, to know that great kings, princes, generals, admirals, philosophers and many more of like eminence have suffered from the same complaint, and ultimately died of it. In a word, gout, unlike any other disease, kills more rich men than poor, more wise than simple." And another ancient writer, the Jesuit, Father Balde, who in 1661 wrote a work which

he called *Solatium Podagricorum*, called gout *Dominus morborum et morbus dominorum.*

I may remark that a much earlier ancient, Aretæus, indicates the superior intelligence of the gouty in his statement that they are specially skilful in the knowledge of the drugs that suit them. In more recent times a long series of physicians have testified to the intellectual eminence of their gouty patients. Cullen said that gout especially affected "men of large heads"; Watson stated that gout is "peculiarly incidental to men of cultivated mind and intellectual distinction." Sir Spencer Wells believes that, in the absence of hereditary predisposition, gout is not easy to produce except "in men endowed with a highly organised condition of the nervous system," and again remarks (*Practical Observations on Gout*, 1856, p. 23), in reference to statesmen, "those who are known to be subject to gout are among the most distinguished for an ancestry rendered illustrious by 'high thoughts and noble deeds,' for their own keen intelligence, for the assistance that they have afforded to improvements in arts, science and agriculture, and for the manner in which they have led the spirit of the age. . . I never met with a real case of gout, in other classes of the community, in a person not remarkable for mental activity, unless the tendency to gout was clearly inherited."

This association of ability and gout cannot be a fortuitous coincidence. I have elsewhere suggested (*Popular Science Monthly*, July, 1901) that the secret of the association may possibly to some extent lie in the special pathological peculiarities of gout. It is liable to occur in robust, well-nourished individuals. It acts in such a way that the poison is sometimes in

the blood, and sometimes in the joints. Thus not only is the poison itself probably an irritant and stimulant to the nervous system, but even its fluctuations may be mentally beneficial. When it is in the victim's blood his brain becomes abnormally overclouded, if not intoxicated; when it is in his joints his mind becomes abnormally clear and vigorous. There is thus a well-marked mental periodicity; the man liable to attacks of gout is able to view the world from two entirely different points of view; he has, as it were, two brains at his disposal; in the transition from one state to another he is constantly receiving new inspirations, and constantly forced to gloomy and severe self-criticism. His mind thus attains a greater mental vigour and acuteness than the more equable mind of the non-gouty subject, though the latter is doubtless much more useful for the ordinary purposes of life, for the gouty subject is too much the victim of his own constitutional state to be always a reliable guide in the conduct of affairs.

It is, however, possible only to speak tentatively of the nature of the pathological relationship between genius and gout, because the true nature of gout itself is not yet definitely known. Some years ago the theory that gout is caused by uric acid was very vigorously promulgated by Garrod and others, and very widely accepted; this theory, however, no longer receives such wide acceptance, and there is a tendency to regard the uric acid produced in gout as a symptom rather than a cause. According to another view which has lately been maintained by Woods Hutchinson in a very able discussion of this question ("The meaning of Uric Acid and the Urates," *Lancet*, 31 January, 1903), gout is certainly a toxaemia, but chiefly of intestinal origin

(the uric acid produced by the disease being comparatively harmless), whence it is that the drugs good in gout are such as either prevent intestinal fermentation or absorb its products. This theory does not, however, clearly answer the question why it is that some persons and not others are liable to gout. A theory which has been upheld by a long series of distinguished clinical physicians regards gout as primarily and pre-eminently a neurosis; this was the belief of Stahl, Cullen, Laycock, Dyce Duckworth (Dyce Duckworth, "A Plea for the Neurotic Theory of Gout," *Brain*, April, 1880). I should be going beyond my proper province if I were to state that the facts here brought forward may be regarded as an argument in favour of the existence of a neurotic element in the factors producing gout. That, however, my data confirm the belief in the prevalence of gout among men of high intellectual ability can scarcely be doubted.

I have sometimes found that physicians who readily accept a special association between intellectual ability and gout, are inclined to account for it easily by an unduly sedentary life probably associated with excesses in eating and drinking. This explanation cannot be accepted. Many of the most gouty persons on my list have been temperate in eating and drinking to an extreme degree, and while it is true that the gouty have often written much, the general energy, physical and mental, of the gouty may almost be said to be notorious. Sir Spencer Wells, in questioning the influence of sedentary habits, referred to the remarkable activity of gouty statesmen, and more recently Dr. Burney Yeo remarks (*British Medical Journal*, 15 June, 1901): "The gouty patients that I have seen have, I should say, in the

majority of instances, been extremely active and energetic people, and it is often difficult to get them to take sufficient rest." I may note that in a much earlier age Aretæus speaks of a gouty person who, in an interval of the disease, won the race in the Olympiac games.

It may be of interest to point out in relation to the connection between genius and gouty conditions, that Marro (*La Puberté*, p. 256) has observed a very constant relation between advanced age of parents at conception and lithiasis in the child. We have already seen that there is a marked tendency among some of our men of genius for the parents to be of advanced age at the eminent child's conception; and it is possible that the connection between gout and genius may thus be in part due to a tendency of some of the gout-producing influences to be identical with some of the genius-producing influences. If this is so we might probably expect to find that the age of the parents of those of our men of genius who belonged pathologically to the lithiasis group would be higher than the general average. I find that the average age of 19 fathers of eminent gouty men is 37.4, and of seven mothers 33.2 years, while the average age of the fathers of eight eminent men who suffered from stone or gravel is 37.2. These averages are slightly, but very slightly indeed, higher than those for our men of genius generally. It must of course be remembered that the general averages are higher than those for the normal population.

It must not, in any case, be supposed that in thus suggesting a real connection between gout and genius it is thereby assumed that the latter is in any sense a product of the former. It is easy enough to find severe gout in individuals who are neither rich nor wise, but merely

hard-working manual labourers of the most ordinary intelligence. It may well be, however, that, given a highly endowed and robust organism, the gouty poison acts as a real stimulus to intellectual energy, and a real aid to intellectual achievement. Gout is thus merely one of perhaps many exciting causes acting on a fundamental predisposition. If the man of genius is all the better for a slight ferment of disease, we must not forget that if he is to accomplish much hard work he also requires a robust constitution.

It may be added that the other diseases usually described as of the uric acid group are common among our men of genius. Rheumatism, indeed, is not mentioned a large number of times (11), considering its prevalence among the ordinary population. But stone, and closely allied conditions, are mentioned 25 times (sometimes in association with gout), and as we may be quite sure that this is a very decided underestimate it is certain that the condition has been remarkably common.

There are two disorders, allied to gout and at the same time distinctly neurotic in character, which are decidedly common among our eminent persons, and we must, I believe, regard them as of considerable significance. I refer to spasmodic asthma and angina pectoris. Asthma is distinctly connected with gouty conditions, and occasionally also it alternates with insanity;

it is a disorder common in individuals of high nervous temperament.* I have noted it in 14 cases, often as beginning in early life. Angina occurred in about nine cases, certainly a large proportion considering that the disease is one which has only been recognised in quite recent times. It is probable that one or two cases were not true angina but that simulated angina which sometimes occurs in neurotic individuals; on the other hand several of the cases mentioned as heart disease would certainly, had they been more definitely described, be set down as angina.

One other grave pathological state remains to be noticed in this connection—insanity. To the relationship of insanity with genius great importance has by some writers been attached. That such a relationship is apt to occur cannot be doubted, but it is far from being either so frequent or so significant as is assumed by some writers, who rake together cases of insane men of genius without considering what proportion they bear to sane men of genius, nor what relation their insanity bears to their genius. The interest felt in this question is so general that we may be fairly certain that the national biographers have

* I may refer to the slightly analogous respiratory defect in horses called "roaring" (due to laryngeal hemiplegia), a neurotic disturbance apt to occur in very highly-bred horses.

rarely failed to record the facts bearing on it, although in some cases these facts are dubious and obscure. They may often have passed over gout without mention, but they have seldom failed to mention insanity whenever they knew of its occurrence. It is, therefore, possible to ascertain the prevalence of insanity among the persons on our list with a fair degree of approximation to the truth, as it was known to the eminent man's contemporaries. We thus find that 13 were, during a considerable portion of their active or early lives, thoroughly and unquestionably insane, in most cases with a clearly morbid heredity which frequently showed itself in early life; in most cases also they died insane. These were J. Barry, Clare, William Collins, Cowper, Denham, Fergusson, Gillray, Lee, Paterson, Pugin, Ritson, Romney, Smart. We further find a second group consisting of individuals who may be said, with a fair degree of certainty, to have been once insane, but whose insanity was either slight, of brief duration, or quickly terminated by death, sometimes by suicide. These were Borrow (?), Chatham (?), Cotman (?), O. Cromwell (?), G. Fox, J. Harrington, Haydon (?), Mrs. Jordan, Kean (?), Lamb, Landseer, Lever, Rodney (?), D. G. Rossetti, Ruskin (?), Tillotson, Sir H. Trollope, Whitbread,

Sir C. H. Williams. A third group consists of men who were perfectly sane during the greater part of long lives filled with strenuous intellectual activity, although in two or three cases there was morbid mental heredity or eccentricity in earlier life. These cases, 12 in number, which may usually be fairly regarded as senile dementia, are H. Cavendish, Colman, Marsh, Newton (?), J. Pearson, Sabine, Southey, Stephen, Swift, Warburton, S. Ward, T. Wright. It would be possible to add a fourth group of borderland cases in which the existence of actual insanity was in most cases dubious, but marked eccentricity not amounting to insanity was unquestionable. Such were Boswell and R. Browne and Laurence Oliphant. William Blake clearly lived on the borderland of insanity, and Dr. Maudsley indeed declared many years ago that if the story of his sitting naked with his wife in his summer house is to be believed, he was certainly insane; this, however, one may be permitted to doubt. Blake had strong opinions regarding the action of the sun on the skin, and in a day in which sun baths are regarded as beneficial we may view more intelligently the action of a man who was in many respects a pioneer. I leave this group out of account. Nor are the cases of suicide, at least ten in

number, necessarily to be regarded as cases of insanity.

If we count every case of probable insanity which may be inferred from the data supplied by the national biographers, and even if we include that decay of the mental faculties which in predisposed subjects is liable to occur before death in extreme old age, we find that the ascertainable number of cases of insanity is 44, so that the incidence of insanity among our 1,030 eminent persons is 4.2 per cent.

It is perhaps a high proportion. I do not know the number of cases among persons of the educated classes living to a high average age in which it can be said that insanity has occurred at least once during life. It may be lower, but at the same time it can scarcely be so very much lower that we are entitled to say that there is a special and peculiar connection between genius and insanity. The association of genius with insanity is not, I believe, without significance, but in face of the fact that its occurrence is only demonstrable in less than 5 per cent. cases, we must put out of court any theory as to genius being a form of insanity.

It may be said that although the proportion of insane men of genius is so small, a different result would be attained if we took account of

those who sprang from insane stocks, or showed their neuropathic unsoundness by producing insane stocks. "It is no exaggeration to say," Dr. Maudsley once boldly wrote, "that there is hardly ever a man of genius who has not insanity or nervous disorder of some form in his family."* It is nearly twenty years since that statement was made, yet neither Dr. Maudsley nor anyone else has yet brought forward any sound evidence in support of it. So far as the present inquiry bears on the point, it may be said that the number of those men of genius who are noted as having a father or mother who became insane, or children who became insane, is very small indeed, the cases of insanity in the descendants being about equal to those of insanity in the ascendants. Less than two per cent. of our eminent persons are stated to have had either insane parents or insane children. We may certainly believe that the records are incomplete, but there is clearly no ground for believing that an insane heredity is eminently productive of intellectual ability. The notion sometimes put forward that in discouraging the marriages of persons belonging to mentally unsound stocks we are limiting the production of genius is without support.

* H. Maudsley, "Heredity in Health and Disease," *Fortnightly Review* May, 1886.

While I cannot compare with any precision the liability of persons of genius to insanity with the similar liability of corresponding normal classes, there is one comparison which it is interesting to make. We may compare the liability of persons of genius to insanity with the similar liability of their wives or husbands. It is noted by the national biographers that in 16 cases the wives or husband (there is only one case of the latter*) became insane. We may be fairly certain that this is a decided underestimate, for while the biographers would hold themselves bound to report the insanity of their subjects, they would not consider themselves equally bound to give similar information concerning the wives, while in other cases it may well be that the record of the fact has been lost. If now, in order to make the comparison reasonably fair, we omit the second group of slight cases of insanity and only admit the first and third groups, we find that the proportion of cases of insanity among the persons of genius is 2.4 per cent. Among the conjugal partners, on the other hand (I have not made any allowance for second marriages), it is 2.2. Thus we see

* This was Mrs. Barbauld's husband; it may be added that the man to whom Harriet Martineau was engaged became insane, and that Hannah More's marriage was prevented by what seems the morbid eccentricity of the man.

that on a roughly fair estimate the difference between the incidence of insanity on British persons of genius and on their wives or husbands is a neligible difference; it is scarcely hazardous to assert that British men of genius have probably not been more liable to insanity than their wives.

At the first glance it might seem that this may be taken to indicate that the liability of genius to insanity is exactly the normal liability. That, however, would be a very rash conclusion. If the wives of men of genius were chosen at random from the general population it would hold good. But there is a well-recognised tendency,—observed among all the mentally abnormal classes,—for abnormal persons to be sexually attracted to each other. That this tendency prevails largely among persons of eminent intellectual ability many of us may have had occasion to observe. What we see, therefore, is not so much the conjunction of an abnormal and a normal class of persons, but the presence of two abnormal classes.

With regard to the significance of insanity, it must be pointed out that even if there is a slightly unusual liability to insanity among men of genius, there is no general tendency for genius and insanity, even when occurring in the same

individual, to be concomitant. Just as it is rare to find anything truly resembling genius in an asylum, so it is rare to find any true insanity in a man of genius when engaged on his best work. The simulation of it may occur,—either the "divine mania" of the artistic creator, or a very high degree of eccentricity,—but not true and definite insanity. There seem to be very few certain cases—mostly poets—in which the best work was done during the actual period of insanity. Christopher Smart's one masterpiece may be said to be actually inspired by insanity, and much of Cowper's best work was written under the influence of insanity. Periods of insanity may alternate with periods of high intellectual achievement, just as gout may alternate with various neurotic conditions, but the two states are not concomitant, and genius cannot be accurately defined as a disease.

It must also be pointed out, in estimating the significance of the relationship between genius and insanity, that the insane group is on the whole not one of commanding intellectual pre-eminence. It cannot compare in this respect with the gouty group, which is not much larger, and the individuals of greatest eminence are usually the slightest or the most doubtful cases. Among poets and men of letters, of an order

below the highest, insanity has been somewhat apt to occur; marked eccentricity almost or quite amounting to insanity has been prevalent among antiquarians, but the intellectual eminence of antiquarians is often so dubious that the question of their inclusion in my list has been a frequent source of embarrassment.

If we turn from insanity to other grave nervous diseases, we are struck by their rarity. It is true that many serious nervous diseases have only been accurately distinguished during the past century, and we could not expect to find much trace of them in the *Dictionary*. But that cannot be said of epilepsy, which has always been recognised, and in a well-developed form cannot easily be ignored. Yet epilepsy is only mentioned twice by the national biographers—once as occurring in early life (Lord Herbert of Cherbury), once in old age (Sir W. R. Hamilton). Even these two cases, however, cannot be admitted. In Lord Herbert of Cherbury's case the national biographer has simply misunderstood a passage in Lord Herbert's *Autobiography*, in which he tells us how, as he believed, he escaped the epilepsy which he says is common in his family by acquiring a minor disorder in childhood, a "defluxion of the ears" which "purged his system;" in Sir W. R. Hamilton's case the

epileptoid fits occuring in old age most certainly cannot be regarded as true epilepsy. There appears to be nothing whatever in the records of British genius favourable to Lombroso's favourite theory, that genius tends to occur on an epileptoid basis.

While, however, grave nervous diseases of definite type seem to be rare rather than common among the eminent persons with whom we are dealing, there is ample evidence to show that nervous symptoms of vaguer and more atypical character are extremely common. The prevalence of eccentricity I have already mentioned. That irritable condition of the nervous system which, in its Protean forms, is now commonly called neurasthenia, is evidently very widespread among them, and probably a large majority have been subject to it. Various definite forms of minor nervous derangement are also common.

Among the minor forms of nervous derangement stammering is of very great significance. I have ascertained that at least 13 of the eminent persons on my list (12 men and one woman) stammered. These were Bagehot (?), R. Boyle, Curran, Croker, Erasmus Darwin, Dodgson, Mrs. Inchbald, C. Kingsley, Lamb, Maginn, Priestley, Sheil, Sidgwick. Seven others are noted as having defects of speech which are sometimes stated

not to amount to a stammer, but in other cases were doubtless ordinary stammering. When it is remembered that the normal occurrence of stammering among adults is much below one per cent. and also that my record is certainly very incomplete, it will be seen that there can be no doubt whatever as to the abnormal prevalence of stammering among British persons of ability. It may be added that 25 persons are described as having a high, shrill, feminine, small or weak voice; this also is certainly very decidedly less than the real number.

Stammering may be defined as a functional disturbance of the central nervous system, congenital or acquired, characterised by involuntary, disorderly spasms in certain muscles concerned in vocal utterance.* In other words, it is a spastic neurosis of muscular co-ordination. Hartwell, following Marshall Hall, describes it as a St. Vitus's dance of the finer, more peripheral muscles of speech. Stammering is frequently distinguished from stuttering, but it is unnecessary to observe any distinction here, as our knowledge of the precise nature of the voice defects found among our men of genius is often imperfect. We may with Wyllie regard "stammering" as the general term. Clouston, in his *Nuroses of Development*, regards stammering as specially associated with rapid brain growth, and as most likely to occur between

* E. M. Hartwell ("Report of the Director of Physical Training," Boston *School Document*, No. 8, 1894) has dealt in an interesting manner with the prevalence of this defect and its significance.

birth and the seventh year. In his careful investigation among Boston school children Hartwell found that stammering became more prevalent at the beginning of accelerated growth, just before or just after such growth culminates, and again after its cessation, and he concludes that the irritability of the nervous system of which stammering is an expression, is correlated with the most marked upward and downward fluctuations of the power of the organism to resist lethal influences. Stammering is much less common in adults than in children and is three to four times more frequent in men. Among male adults its frequency has been most carefully investigated in recruits, and its prevalence found to be, according to the standard adopted, 3 to 6 per thousand in France (Chervin), as well as among French recruits in the American War of Secession (Baxter), 1.2 per thousand among native American recruits during the same war (Baxter), and exactly the same in Russia (Ssikorski).

In persons of neuropathic inheritance, stammering is specially liable to occur. "Even in the very intelligent," Wyllie remarks (*Disorders of Speech*, p. 22), "it may be found associated with nervousness and excitability as well as sometimes with more distinct indications of irritability of the nervous system."

Among the nervously abnormal classes stammering and allied speech defects occur with especial frequency. This is notably the case among mental defectives. Thus in Berlin, Cassel found that 33.5 per cent. of defective children showed infirmities of speech, and Dr. Eichholz, a London School Inspector, states ("The Treatment of Feeble-minded Children," *Brit. Med. Journal*, 6 September, 1902) that "quite 75 per cent. of defective

children speak imperfectly, ranging from complete aphasia to a mere indistinct thickening, including stammering, halting, lisping, word-clipping, mispronunciation, and the mainly purely vocal imperfections." Most of the minor speech defects mentioned would seem to have been specially prevalent among our British men of genius.

The tendency to very high-pitched voice which is so remarkably common in men of intellectual ability may possibly be due to a slight paralysis of the vocal cords, such as is apt to occur in more marked degrees in general paralysis (as observed by Permewan, *Brit. Med. Journal*, 24 Nov. 1894), unless it is caused by a general arrest of laryngeal development.

Involuntary spasmodic twitching movements, or tic, of the smaller muscles, especially of the face, would appear to occur with very unusual frequency among our British men of genius, although I have no figures of the prevalence of such convulsive movements among the ordinary population. I have noted the prevalence of this nervous disorder in seven cases: Brougham, W. Hook, Dr. Johnson, C. Kingsley, Marshall, J. S. Mill, and Paley.

In another form a tendency to nervous incoordination is shown, by no means necessarily by any actual tremours, in the tendency to bad handwriting. Illegible handwriting is mentioned in nine cases which certainly need to be largely increased.

A tendency to scrawling or illegible handwriting has been frequently noted among the men of genius of many countries and is by no means due to too much writing, for it is often traceable at an early age. It must be remembered that the handwriting is a very delicate indication of the nervous balance, and as such has been carefully studied during recent years by Kraepelin and his pupils, while alienists have long been accustomed to attribute significance to the remarkable changes in handwriting which often occur under the influence of insanity. As Goodhart has truly remarked (*Lancet*, 6 July, 1889), "illegibility is a disease"; and he compares it to the defects of speech.

Writer's cramp, to which illegible handwriting is occasionally due, is also, it must be remarked, not the mere result of excessive writing, for, as Féré points out ("Professional Neuroses," *Twentieth Century Practice of Medicine*, Vol. x. p. 707) it occurs more frequently in high officials than in their subordinates who write more, and is associated with mental over-work and neurasthenic and neuropathic conditions.

Short sight, another condition frequently occurring on a basis of hereditary nervous defect, is noted as existing in an extreme degree 16 times, and in 12 cases some other sense was defective or absent.

A condition to which I am inclined to attribute considerable significance from the present point of view is clumsiness in the use of the hands and awkwardness in walking. A singular degree of clumsiness or awkwardness is noted many

times by the national biographers, although they have certainly regarded it merely as a curious trait, and can scarcely have realised its profound significance as an index to the unbalanced make-up of the nervous system. This peculiarity is very frequently noted as occurring in persons who are tall, healthy, robust, full of energy. As boys they are sometimes not attracted to games, and cannot, if they try, succeed in acquiring skill in games; as they grow up all sorts of physical exercise present unusual difficulties to them; they cannot, for instance, learn to ride; even if fond of shooting, they may be unable to hit anything; in walking they totter and shuffle unsteadily; they are always meeting with accidents. Priestley, though great in experiment, was too awkward to handle a tool; Macaulay could not wield a razor or even tie his own neckcloth; Shelley, though lithe and active, was always tumbling upstairs or tripping on smooth lawns. It would be easy to fill many pages with similar examples. It is noted of at least 55 eminent men and women on our list that they displayed one or more such inaptitudes to acquire properly the muscular co-ordinations needed for various simple actions of life. In numerous cases this clumsiness was combined with voice defect.

The reality of the connection between clumsiness of muscular co-ordination and mental anomaly is clearly shown by the fact that in idiocy, the most extreme form of mental anomaly, this clumsiness is seen at its maximum. "In general," remarks Dr. W. W. Ireland (*The Mental Affections of Children*, 1898, p. 319), "idiots or imbecile children are awkward in their motions and slow at learning to walk. No doubt the cause of this lateness in learning to walk is in some cases owing to weakness, in others to nervous diseases; but there are still cases where the child always appeared strong and healthy. Their gait, too, is awkward. Idiots in general have a bad balance. The same awkwardness applies to the hand." The awkwardness in the case of idiots is doubtless largely due to absence of mental power. In genius the same result is brought about not by absence of mental power, but by the streaming—not only functionally, it is probable, but organically—of the mental energy into other channels. A cause which we may even consider opposite, leads to a like defect in the muscular machinery.

IX.

STATURE.

Nature of the data—Tendency of British men of ability to vary from the average in the direction of short and more especially of tall stature—Apparent deficiency of the medium-sized.

As regards stature, I have succeeded in obtaining information in 362 cases; in 276 cases the information is indefinite, in 86 cases definite.

In the first and larger group, which includes women, 119 are said to be tall, 74 of average or medium height, while 83 are short. There is frequently some difference of opinion regarding an eminent person's height, and in selecting the most probable estimate I have borne in mind the common tendency to regard a man who is really of average height as short, and to regard a tall man as of average height; our standard of height, in other words, tends to be above that for the general population. There still results, however, an abnormally small proportion of medium-sized persons, although these form the bulk of the population. This discrepancy may be accounted for,

in part, by a tendency among biographers to ignore stature when it shows no exceptional deviation from the average.

The smaller group of men of genius whose height is definitely known furnishes evidence of a more reliable character. The distribution of height in this group is as follows :—

ft.	in.		ft.	in.	
5	0	2	5	9	7
5	1	3	5	10	14
5	2	1	5	11	10
5	3	3	6	0	9
5	4	1	6	1	9
5	5	2	6	2	1
5	6	5	6	3	4
5	7	5	6	4	3
5	8	7			

It will be noted that here, as in the other group, we still have a marked deficiency of medium-sized persons, and a predominance of the tall over the short. It may be said that here also there has been a tendency to ignore the height of the average-sized men of genius, and such a tendency may be admitted as, in the past at all events, accounting for this deficiency; the very marked preponderance of the tall over the short still remains.

If we take 5 ft. 9 in. as the average of the class producing men of ability (this was the average

height of the fathers of Galton's English men of science), we find that fifty of our men of genius are above that height and only twenty-nine below it. It will be observed that there is a very considerable proportion of individuals over six feet in height, and as various other persons on our list are described as gigantic, although their precise stature is not known, we must conclude that there really is an excess of such abnormally tall persons.

It is noteworthy that the men of genius who spring from the lower social classes tend to be abnormally tall. The lower social classes are always shorter on the average than the upper classes.* But it is remarkable that among the very small number of our British men of genius who have sprung from the lower social strata a considerable proportion are not only tall, but excessively tall. Of the seventeen British men of genius who are known to have been 6 ft. 1 in. or over in height, at least seven sprang from the peasantry or a lower than middle-class social group; these include Cook, Cobbett, Trevithick and Borrow. It would appear,—although I do not propose to discuss this question here,—that the organic impulse to intellectual predominance,

* The evidence on this point has been brought together by H. de Varigny, art. "Croissance," Richet's *Dictionnaire de Physiologie*, Vol. IV.

most clearly seen in those individuals on our list whose social environment has been against their development, tends in some degree to be associated with a corresponding energy in physical growth. There may well be in men of genius a tendency to physical variation in both directions, to deficiency as well as to excess, but it is predominantly in the direction of excess.*

The average height of Cambridge students is nearly 5 feet 9 inches (cm. 174.8). Nearly all other classes of the community in England are below this height.

Porter among St. Louis children (*Publications Am. Statistical Soc.* 1894) found that superior intellectual capacity is associated with superior stature, and inferior intellectual capacity with inferior stature. Christopher (*Journ. Am. Med. Ass.* 15 September, 1900), found the same result among Chicago school children. This result has been severely criticised and cannot be accepted without qualification. Gilbert at Iowa found no such correlation but rather the reverse. It must be remembered that there are various kinds and degrees of ability and various ways of testing it. Nor can it be assumed that results that hold good of average school children, —even when we have definitely ascertained what those results are,—necessarily hold good also of men of genius, who are an extremely exceptional class.

Papillault (*Bull. Soc. d'Anth. de Paris*, 1899, p. 446) has found that giantism is sometimes associated with

* The results here reached concerning British men of genius accord with the results elsewhere reached on a somewhat wider basis in a paper ("Genius and Stature," *Nineteenth Century*, July, 1897) in which I have discussed some of the problems here involved.

infantilism (more or less glabrous condition of body, defective pigmentation, more or less under-development of sexual organs and impulse, etc.), although infantile persons have no necessary tendency to become giants. He believes that there is some deep underlying but yet undetermined connection between the giantism and the infantilism. This is interesting in view of the frequent association of some degree of infantilism with some degree of gigantism in men of extraordinary intellectual ability.

Combe stated that individuals born in summer tend to be taller than those born in winter. Although the numbers are far too small for any decisive statement, our British men of genius possibly show such a tendency. Unless we take the extremely low heights, there is not indeed an absolute majority of winter-born (October—March) over summer-born (April—September) among the short. But it certainly appears that while among those whose height is below five feet five inches there are as many as four winter-born to six summer-born, among those who are over six feet one inch there is only one winter-born to six summer born.

It was found by Arthur MacDonald that in America first-born children of school age tend to be larger than later children. This is not in accordance with the results found at birth, nor can it be said to hold good as regards the very meagre data furnished by the British men of genius on my list. A strict comparison is not possible, but it may at all events be said that the preponderence of eldest children among British men of genius below five feet seven inches in height is somewhat greater,—if indeed there can be said to be any real difference,—than among those who are over five feet ten inches.

X.

PIGMENTATION.

Hair-colour and eye-colour—Method of classification—Sources of data—The index of pigmentation—Its marked variation in the different intellectual groups—Some probable causes for this variation.

IF we turn to a further anthropological character, pigmentation, or the colour of the hair and eyes, I am able to bring forward a larger body of evidence, and it is not difficult to supplement the data furnished by the *Dictionary* with the help of portraits, more especially those in the National Portrait Gallery.* I have information on this point concerning 424 of the eminent persons on our list. In classifying by pigmentation I have relied in the first place on the eye-colour, but have allowed hair-colour a certain influence in

* The determination of the pigmentation of portraits has been in nearly all cases by personal inspection. The only exception is in the case of several eminent Scotch personages whose portraits were exhibited at the Edinburgh Loan Exhibition of Scottish National Portraits, in 1884. Dr. Beddoe was kind enough to lend me his own carefully annotated catalogue of this Exhibition, with permission to make use of his notes. I availed myself of this permission when necessary, with, I need scarcely say, entire confidence, since Dr. Beddoe is our chief authority on the pigmentation of British peoples.

modifying the class in those cases in which there was marked divergence between the two in lightness and darkness. I have sorted the eminent persons into three classes, according as their eyes were unpigmented (blue), highly pigmented (brown), or occupying an intermediate position (combinations of blue with yellow, orange or brown).* This intermediate class has necessarily been large, and I have comprised within it three sub-divisions: a fair medium, a dark medium, and, between these two, a doubtful medium.

I found that the 424 individuals might be thus classed as regards eye-colour: unpigmented, 71; light medium, 99; doubtful medium, 54; dark medium, 85; fully pigmented, 115. The question arose as to how the results thus obtained might be conveniently formulated, so as to enable us to compare the different groups of eminent persons. I finally decided to proceed with each of these groups as follows: The doubtful medium persons in each of these classes were divided

* The chief terms used, popularly and in literature, to describe eye-colour are (besides blue, which is frequently applied to eyes by no means purely blue), grey, hazel and black. "Grey" is applied to light mixed eyes, *i.e.*, those which show blue with some admixture of yellow or orange; "hazel," to dark mixed or greenish brown, and sometimes to fully pigmented brown eyes; "black" eyes do not really exist at all. It seems to me that the terms "grey," "hazel," and "black," should never be used when we are attempting to define eye-colour with any degree of precision—a somewhat difficult matter at the best. I may add that my division of eyes into these main classes is substantially the same as Dr. Beddoe's.

equally between the fair medium and the dark medium; then two-thirds of the fair medium persons were added to the fair class, the remaining third to the dark class, and, likewise, two-thirds of the dark medium were added to the dark class, the remaining third to the fair class; the five classes were thus reduced to two, and, on multiplying the fair by 100 and dividing by the dark, we obtain what may be called an index of pigmentation. This method of notation is really simple, and is quite sufficiently accurate for the nature of the data dealt with; it will be seen that by its use an index of 100 means that fair and dark people are equally numerous in a group, while indices over 100 mean an excess of fair persons, and indices under 100 an excess of dark persons.

I may remark concerning this index of pigmentation that, while it yields results which are strictly comparable among themselves in the hands of a single observer, proceeding in a uniform manner, it is doubtful whether two observers would carry it out in a strictly identical manner. Beddoe's index of nigrescence, founded on hair-colour and applied directly to living subjects, is a convenient formula for indicating the degree of pigmentation. But in my observations, largely made on portraits (in which the hair was often

whitened by age, absent, concealed beneath a wig, or obscured by the darkening of the paint), it was necessary to accept eye-colour as the primary basis of classification.

I have been able to obtain the index of pigmentation in the case of fourteen groups. I present them with their index of pigmentation in the order of decreasing fairness, noting also the number of individuals in each group. Some individuals, I may remark, are included in more than one group, while various miscellaneous persons are not included at all.

Group, with Number of Individuals.		Index of Pigmentation.
Social and political reformers ...	(6) ...	400
Scholars	(7) ...	200
Lawyers	(15) ...	114
Soldiers	(23) ...	110
Men of science	(45) ...	109
Sailors	(13) ...	100
Philosophers	(12) ...	100
Painters, sculptors and architects	(38) ...	94
Poets	(58) ...	90
Men and women of letters ...	(98) ...	79
Statesmen	(49) ...	78
Explorers	(7) ...	66
Divines	(44) ...	48
Actors and actresses	(18) ...	30

Although the numbers are for some groups few, and we must not regard the index as giving results which are quite invariable, we may accept

the general results with some confidence. It may be regarded as fairly certain that the first six groups do really tend to be unusually fair, and the last three groups unusually dark. The average index of pigmentation for the British population generally probably lies between eighty and one hundred, but it varies greatly if we take separate districts, being very high in many parts of Scotland and very low in many parts of the West of England. It is fairly obvious that this fact furnishes, to some extent, a key to the position of the various groups in reference to this index. Sailors, who tend to be fair, come largely from the coast, and the inhabitants of the coast are usually fairer than people from inland districts. Men of science come largely from regions where the population is fair. Artists tend to be fair, both in England and France, and it is at first a little surprising to find that they do not appear higher upon the list. It may be pointed out, however, that a large proportion of our most eminent painters come from East Anglia, a region in which, though the hair is not very dark, the eye-colour is very frequently brown.* Actors

* During a recent walk from Sudbury to Hadleigh, in Central Suffolk, I noted the eye-colour of the children and adults I passed, and found that the proportion of brownish eyes to bluish eyes was about 70 per cent. to 30 per cent. On the following day I found myself in Colchester, Essex, on Market day; here the proportions were reversed: there were about 70 per cent. bluish eyes to about 30 per cent. brownish.

come largely from regions where the population is dark. But this factor, though it accounts for much, will not account for everything, nor will it explain the decisiveness of the results. Divines come from all parts of the United Kingdom, yet they tend to be distinctly dark*. The darkness of eminent actors is very marked, whatever their place of origin; only one of the eighteen on my list, Munden, falls in the unpigmented group, and he is certainly not an actor of the highest rank. The extreme fairness of political agitators and social reformers (religious reformers, who tend to be decidedly dark, not being included) is peculiar. The darkness of travellers and explorers may be explained by a kind of natural selection, fair persons speedily succumbing to the effects of tropical climates; it may be remarked that this group would have been still darker if it had not been for the presence of two or three individuals, of so-called Celtic type, who are fairly pigmented on the whole, though their eyes are not dark. It would, however, be out of place here to discuss fully the very interesting question of the significance of pigment in relation to intellectual ability.†

* This result has also been reached by Dr. Beddoe.

† I have briefly discussed it in an article entitled "The Comparative Abilities of the Fair and the Dark," *Monthly Review*, August, 1901.

The results of this enquiry are on the whole confirmed by an enquiry I have elsewhere carried out as to the index of pigmentation of all the persons whose portraits are to be seen in the National Portrait Gallery, and whose eyes are fairly visible (*Monthly Review*, August, 1901). I may say that I regard the results of my observations in the National Portrait Gallery (though some of the data are common to both series of observations) as distinctly more trustworthy in the light they throw on the relationship of pigmentation to intellectual avocation, not only because the numbers are larger but also because the standard of ability is much lower, so that the influences of predilection in the direction of the intellectual ability is less complicated by the possibly disturbing factor of very high and versatile intellectual ability. Thus in the small group of very eminent sailors we have several very exceptional men like Cook and Dampier, who were notably dark; the large number of more typical but less eminent sailors in the National Portrait Gallery give us a higher index, which is doubtless nearer to the truth. (I should add, however, that the index of pigmentation was here obtained in a way that at one point slightly differed from that adopted in the later series, *i.e.*, in the National Portrait Gallery groups I simply divided all the medium persons in each group equally between the unpigmented and the fully pigmented sections.)

Group, with Number of Individuals.		Index of Pigmentation.
Political reformers and agitators	(20) ...	233
Sailors	(45) ...	150
Men of science	(53) ...	121
Soldiers	(42) ...	113
Artists	(74) ...	111

Group, with Number of Individuals.			Index of Pigmentation.
Poets	(56)	...	107
Royal family	(66)	...	107
Lawyers	(56)	...	107
Created peers and their sons ...	(89)	...	102
Statesmen...	(53)	...	89
Men and women of letters ...	(87)	...	85
Hereditary aristocracy ...	(149)	...	82
Divines...	(57)	...	58
Men of low birth	(12)	...	50
Explorers	(8)	...	33
Actors and actresses	(16)	...	33

XI.

OTHER CHARACTERISTICS.

Personal beauty or the reverse—The eyes—Shyness and timidity—Tendency to melancholy—Persecution by the world.

A PHYSICAL characteristic to which the national biographers frequently allude, though I do not propose to attempt to give it any numerical values, is personal beauty or the absence of it. A very large proportion of persons are referred to as notably handsome, comely, imposing; a very considerable, but smaller, proportion are spoken of as showing some disproportion or asymmetry of feature, body or limbs, as notably peculiar or even ludicrous in appearance. A not uncommon type is that of the stunted giant, with massive head and robust body, but very short legs.

There is one feature, however, which is noted as striking and beautiful in a very large number of cases, even in persons who are otherwise wholly without physical attractions. That is the eyes. It is very frequently found that descriptions of the

personal appearance of men of genius, however widely they may differ in other respects, agree in noting an unusual brilliancy of the eyes. Thus the eyes of Burns were said by one observer to be like "coals of living fire," and Scott writes that they "literally glowed"; while of Chatterton's eyes it was said that there was "fire rolling at the bottom of them." It is significant that both of these instances, chosen almost at random, were poets. While, however, the phenomenon seems to be noted more frequently and with more emphasis in poets, it is found among men of genius of all classes. One may suppose it to be connected with an unusual degree of activity of the cerebral circulation.

In regard to the mental and emotional disposition of British persons of genius, the national biographers enable us to trace the prevalence of one or two tendencies. One of these is shyness, bashfulness, or timidity. This is noted in sixty-eight cases, while fifty are described as very sensitive, nervous, or emotional, and, although this is not equivalent to a large percentage, it must of course be remembered that the real number of such cases is certainly very much larger, and also that the characteristic is in many cases extremely well marked. Some had to abandon the profession they had chosen

on account of their nervous shyness at appearing in public; others were too bashful to declare their love to the women they were attracted to; Sir Thomas Browne, one of the greatest masters of English prose, was so modest that he was always blushing causelessly; Hooker, one of the chief luminaries of the English Church, could never look any one in the face; Dryden, the recognized prince of the literary men of his time, was, said Congreve, the most easily put out of countenance of any man he had ever met. It is not difficult to see why the timid temperament,—which is very far from involving lack of courage,*—should be especially associated with intellectual aptitudes. It causes a distaste for social contact and so favours those forms of activity which may be exerted in solitude, these latter, again, reacting to produce increased awkwardness in social relations. Moreover, the mental state of timidity, which may be regarded as a mild form of *folie du doute*, a perpetual self-questioning and uncertainty, however unpleasant it may be from the social point of view, is by no means an unsatisfactory attitude in the face of intellectual problems, for it involves that un-

* "None are so bold as the timid when they are fairly roused," wrote Mrs. Browning in her *Letters*. The same point has been brought out by Dugas in his essay on timidity.

ceasing self-criticism which is an essential element of all good intellectual work, and has marked more or less clearly the greatest men of scientific genius. Fundamentally, no doubt, timidity is a minor congenital defect of the nervous mechanism, fairly comparable to stammering. It may be noted that the opposite characteristic of over self-confidence, with more or less tendency to arrogance and insolence, is also noted, but with much less frequency, and usually in men whose eminence is not due to purely intellectual qualities. In some cases, it would seem, the two opposite tendencies are combined, the timid man seeking refuge from his own timidity in the assumption of arrogance.

In a certain number of cases information is given as to the general emotional disposition, whether to melancholy and depression, or of a gay, cheerful and genial character. In eighty-five cases the disposition is noted as melancholy, in twenty as cheerful or jovial; in seven cases both dispositions are noted as occurring, in varying association, in the same person.

This marked tendency to melancholy among persons of intellectual aptitude is no new observation, but was indeed one of the very earliest points noted concerning men of genius. According to a saying attributed to Aristotle, all men of ability are melancholy, and Reveillé-Parise, one of the first and still

one of the most sagacious of the modern writers on genius, devoted a chapter to the point. It is not altogether difficult to account for this phenomenon. Melancholy children, as Marro found, are in large proportion the offspring of elderly fathers, as we have also found our persons of intellectual eminence to be. A tendency to melancholy, again, even though it may always fall short of insane melancholia, is allied to those neurotic and abnormal conditions which we have found to be not infrequent. Moreover, it certainly has a stimulating influence on intellectual work. The more normal men of cheerful disposition instinctively seeks the consolations of society. The melancholy man, like the shy man, is ill-adapted to society, and more naturally seeks his consolations in a non-social field, such as that of the intellect, often plunging more deeply into intellectual work the more profound his melancholy becomes. Wagner said that his best work was done at times of melancholy, and among the eminent men on our list several writers are mentioned who turned to authorship as a relief to personal depression. It may also be said that not only is melancholy a favourable condition for intellectual work, but that the sedentary and nerve-exhausting nature of nearly all forms of intellectual work in turn reacts to emphasize or produce moods of depression.

Another cause that serves largely to accentuate the tendency of men of genius to melancholy is the attitude of the world towards them. Every original worker in intellectual fields, every man who makes some new thing, is certain to arouse hostility where he does not meet with indifference. He sets out in his chosen path, ignorant of men, but moved by high ideals, content

to work in laborious solitude and to wait, and when at last he turns to his fellows, saying, "See what I have done for you!" he often finds that he has to meet only the sneering prejudices of the few who might have comprehended, and the absolute indifference of the many who are too absorbed in the daily struggle for bread to comprehend any intellectual achievement. The wise worker knows this and arms himself with benevolent contempt, alike against the few and the many. Thus of one of the great men of science on our list, Stephen Hales, it was said that he could look "even upon those who did him unkind offices without any emotion of particular indignation, not from want of discernment or sensibility; but he used to consider them only like those experiments which, upon trial, he found could never be applied to any useful purpose, and which he therefore calmly and dispassionately laid aside." But it has to be remembered that the prevailing temperament of men of genius is one of great nervous sensitiveness and irritability,—so that, as Reveillé-Parise puts it, they are apt to "roar at a pin-prick,"—and even when they are well aware what the opinion of the world is worth, they still cannot help being profoundly affected by that opinion. Hence a fruitful source of melancholy.

The attitude of the world towards the man of original intellect, being not merely one of disdain or indifference, but constantly tending to become aggressive, has certainly reinforced the tendency to melancholy. It is practically impossible to estimate the amount of persecution to which this group of pre-eminent British persons has been

subjected, for it has shown itself in innumerable forms, and varies between a mere passive refusal to have anything whatever to do with them or their work and the active infliction of physical torture and death. There is, however, at least one form of persecution, very definite in character, which it is easy to estimate, since the national biographers have probably in few cases passed it over. I refer to imprisonment. I find that at least 160, or over 16 per cent., of our 975 eminent men were imprisoned, once or oftener, for periods of varying length, while many others only escaped imprisonment by voluntary exile. It is true that the causes of imprisonment were various, but even imprisonment for such a cause as debt may usually be taken to indicate an anomalous lack of adjustment to the social environment. The man of genius is an abnormal being, thus arousing the instinctive hostility of society, which by every means seeks to put him out of the way.

It will be seen that the various personal traits noted in this section, while completing our picture of British persons of genius, may be linked on at numerous points to other traits we have previously noted. It only remains to gather together the threads we have traced and to ascertain how far they may be harmoniously woven into a complete whole.

XII.

CONCLUSIONS.

The characteristics of men of genius probably to a large extent independent of the particular field their ability is shown in—What is the temperament of genius ?—In what sense genius is healthy—The probable basis of inaptitude for ordinary life—In what sense genius is a neurosis.

It may be reasonable to ask, in estimating the significance of those characteristics of British persons of genius we have here ascertained, to what degree an investigation of persons of eminent intellectual aptitude belonging to other countries would bring out different results. It is not possible to answer this question quite decisively. The fact, however, that at many points our investigation simply gives precision to characteristics which have been noted as marking genius in various countries seems to indicate that in all probability the characters that constitute genius are fundamentally alike in all countries, though it may well be that minor modifications are associated with national differences. The

point is one that can only be decisively settled when similar investigations are carried out concerning similar groups of persons of superior intellectual ability belonging to various countries.

A further question may be asked: How far has confusion been introduced by lumping together persons whose intellectual aptitudes have been shown in very different fields? May not the average biological characteristics of the man of science be the reverse of those of the actor, and those of the divine at the other extreme from those of the lawyer? I believe that Mr. Galton is inclined to think that the investigation of groups of men with different intellectual aptitudes would yield different results. As, however, we have seen, the investigation of eminent British persons, when carried out without reference to the particular fields in which their activities have been exercised, yields results which, when comparable with those of Galton, do not usually show any striking discrepancies. Nor, so far as I have at present looked into the matter, does it appear that on the whole, when we consider separately the various groups of British eminent persons we are here concerned with, such groups show any widely varying biological characters. Certain variations there certainly are; we have seen that the geographical distribution of the various kinds of

intellectual activity to some extent varies, and also that in pigmentation there are in some cases marked variations. On the whole, however, it would appear that, whatever the field in which it displays itself, the elements that constitute the temperament of genius show a tendency to resemble each other.

I shall probably be asked to define precisely what the "temperament" is that underlies genius. That, however, is a question which the material before us only enables us to approach very cautiously. There are two distinct tendencies among writers on genius. On the one hand are those who seem to assume that genius is a strictly normal variation. This is the standpoint of Galton.* On the other hand are those, chiefly alienists, who assume that genius is fundamentally a pathological condition and closely allied to insanity. This is the position of Lombroso, who compares genius to a pearl,—so regarding it as a pathological condition, the result of morbid irritation, which by chance has produced a beautiful result,—and who seeks to find the germs of genius among the literary and artistic productions of the inmates of lunatic asylums.

It can scarcely be said that the course of our

* In the preface to the second edition of *Hereditary Genius* Mr. Galton has somewhat modified this view.

investigation, uncertain as it may sometimes appear, has led to either of these conclusions. On the one hand, we have found along various lines the marked prevalence of conditions which can hardly be said to be consonant with a normal degree of health or the normal conditions of vitality; on the other hand, it cannot be said that we have seen any ground to infer that there is any general connection between genius and insanity, or that genius tends to proceed from families in which insanity is prevalent; for while it is certainly true that insanity occurs with unusual frequency among men of genius, it is very rare to find that periods of intellectual ability are combined with periods of insanity, and it is, moreover, notable that (putting aside senile forms of insanity) the intellectual achievements of those eminent men in whom unquestionable insanity has occurred have rarely been of a very high order. We cannot, therefore, regard genius either as a purely healthy variation occurring within normal limits, nor yet as a radically pathological condition, not even as an alternation—a sort of allotropic form—of insanity. We may rather regard it as a highly sensitive and complexly developed adjustment of the nervous system along special lines, with concomitant tendency to defect along other lines.

Its elaborate organization along special lines is often built up on a basis even less highly organized than that of the ordinary average man. It is no paradox to say that the real affinity of genius is with congenital imbecility rather than with insanity. If indeed we consider the matter well we see that it must be so. The organization that is well adapted for adjustment to the ordinary activities of the life it is born into is not prompted to find new adjustments to suit itself. The organic inhibition of ordinary activities is, necessarily, a highly favourable condition for the development of extraordinary abilities, when these are present in a latent condition. Hence it is that so many men of the highest intellectual aptitudes have so often shown the tendency to muscular incoordination and clumsiness which marks idiots, and that even within the intellectual sphere, when straying outside their own province, they have frequently shown a lack of perception which placed them on scarcely so high a level as the man of average intelligence. It is not surprising that by means of the *idiots savants*, the wonderful calculators, the mattoids and "men of one idea," and the men whose intellectual originality is strictly confined to one field, we may bridge the gulf that divides idiocy from genius.

Since a basis of organic inaptitude—a condition

which in a more marked and unmitigated form we call imbecility—may thus often be traced at the foundation of genius, we must regard it as a more fundamental fact in the constitution of genius than the undue prevalence of insanity, which is merely a state of mental dissolution, in nearly every case temporarily or permanently abolishing the aptitude for intellectual achievement. It must not, however, be hastily concluded that the prevalence of insanity among men of genius is an accidental fact, meaningless or unaccountable. In reality it is a very significant fact. The intense cerebral energy of intellectual reaction involves an expenditure of tissue which is not the dissolution of insanity, for waste and repair must here be balanced, but it reveals an instability which may sink into the mere dissolution of insanity, if the balance of waste and repair is lost and the high pressure tension falls out of gear. Insanity is rather a Nemesis of the peculiar intellectual energy of genius exerted at a prolonged high tension than an essential element in the foundation of genius. But a germinal nervous instability, such as to the ordinary mind simulates some form of insanity, is certainly present from the first in many cases of genius and is certainly of immense value in creating the visions or stimulating the productiveness of men

of genius. We have seen how significant a gouty inheritance seems to be. A typical example of this in recent years was presented by William Morris, a man of very original genius, of great physical vigour and strength, of immense capacity for work, who was at the same time abnormally restless, very irritable, and liable to random explosions of nervous energy. Morris inherited from his mother's side a peculiarly strong and solid constitution; on his father's side he inherited a neurotic and gouty strain. It is evident that, given the robust constitution, the germinal instability furnished by such a morbid element as this—falling far short of insanity—acts as a precious fermentative element, an essential constituent in the man's genius. The mistake usually made is to exaggerate the insane character of such a fermentative element, and at the same time to ignore the element of sane and robust vigour which is equally essential to any high degree of genius. We may perhaps accept the ancient dictum of Aristotle as reported by Seneca: "No great genius without some mixture of insanity." But we have to remember that the "insanity" is not more than a mixture, and it must be a finely tempered mixture.

This conclusion, suggested by our survey of

British persons of pre-eminent intellectual aptitude, is thus by no means either novel or modern. It is that of most cautious and sagacious inquirers. The same position was, rather vaguely, adopted by Moreau (de Tours) in his *Psychologie morbide dans ses rapports*, etc., published in 1859, though, as his book was prolix and badly written, his proposition has often been misunderstood. He regarded genius as a "neurosis," but he looked upon such "névrose" as simply "the synonym of exaltation (I do not say trouble or perturbation) of the intellectual faculties. . . . The word 'neurosis' would indicate a particular disposition of the faculties, a disposition still in part physiological, but overflowing those physiological limits"; and he presents a genealogical tree with genius, insanity, crime, etc., among its branches; the common root being "the hereditary idiosyncratic nervous state." Professor Grasset, again, more recently (*La supériorité intellectuelle et la névrose*, 1900), while not regarding genius as a neurosis, considers that it is united to the neuroses by a common trunk, this trunk being a temperament and not a disease. The slight admixture of morbidity penetrating an otherwise healthy constitution, such as the present investigation suggests as of frequent occurrence in genius, results in an organization

marked by what Moreau calls a "neurosis" and Grasset a "temperament."

It has been necessary to state, as clearly as may be possible, the conclusions suggested by the present study as regards the pathological relationships of genius, because, although those conclusions are not essentially novel, the question is one that is apt to call out extravagant answers in one direction or another. The most fruitful part of our investigation seems, however, to lie not in the aid it may give towards the exact definition of genius,—for which our knowledge is not sufficient,—but in the promising fields it seems to open out for the analysis of genius along definite and precise lines. The time has gone by for the vague and general discussion of genius. We are likely to learn much more about its causation and nature by following out a number of detailed lines of inquiry on a carefully objective basis. Such an inquiry, as we have seen, is difficult on account of the defective nature of the material and the lack of adequate normal standards of comparison. Yet even with these limitations it has not been wholly unprofitable. It has enabled us to trace a number of conditions which, even if they cannot always be described as factors of the genius constitution, clearly appear among the influences highly favourable to its development.

Such a condition seems to be the great reproductive activity of the parents, the child destined to attain intellectual eminence in many cases alone surviving. The fact of being either the youngest or the eldest child is a condition favourable for subsequent intellectual eminence; and I may add that I could refer to numerous recent instances of large families, in which the eldest and the youngest, but no other members, have attained intellectual distinction. We have further seen that there is a tendency for children who develop genius to be of feeble health, or otherwise disabled, during the period of physical development. It is easy to see the significance of this influence, which by its unfavourable effects on the development of the limbs,—an effect not exerted on the head, which may thus remain relatively large,—leaves an unusual surplus of energy to be used in other directions; at the same time the child, who is thus deprived of the ordinary occupations of childhood, is thrown back on to more solitary and more intellectual pursuits. The clumsiness and other muscular incoordinations which we have found to be prevalent,—while there is good reason to believe that they are of congenital origin,—cooperate to the same end. Again, it is easy to see how the shock of contact with a strange and novel environment, which we have

proved to be so frequent, acts as a most powerful stimulant to the nascent intellectual aptitudes. It is possible to take a number of other common peculiarities in the course of the development of genius and to show how they either serve to inhibit the growth of genius along unfruitful lines or to further it along fruitful lines.

Such an investigation as the present is far from enabling us to state definitely all the determining factors of genius, or even all the conditions required for its development. It suggests that they are really very numerous and that genius is the happy result of a combination of many concomitant circumstances, though some of the prenatal group of circumstances must remain largely outside our ken. We are entitled to believe that the factors of genius include the nature of the various stocks meeting together in the individual and the manner of their combination, the avocation of the parents, the circumstances attending conception, pregnancy and birth, the early environment and all the manifold influences to which the child is subjected from infancy to youth. The precise weight and value of these manifold circumstances in the production of genius it must be left to later investigation to determine.

APPENDICES.

APPENDIX A.

LIST OF EMINENT BRITISH PERSONS OF ABILITY.

(*The names of women are italicised.*)

ABBOT, G. (1562-1633)
Abercromby, Sir R. (1734-1801)
Abington, F. (1737-1815)
Adam, R. (1728-1792)
Adams, J. C. (1819-1892)
Adamson, P. (1537-1592)
Addison, J. (1672-1719)
Adrian IV. (——1159)
Ainsworth, H. (1571-1622)
Airy, Sir G. (1801-1892)
Alcuin (735-804)
Alesius, A. (1500-1565)
Alexander of Hales (——1245)
Alexander, W., Earl of Stirling (1567-1640)
Allen, W. (1532-1594)
Amherst, J., Baron (1717-1797)
Andrewes, L. (1555-1626)
Anson, G., Baron (1697-1762)
Arblay, F. d' (1752-1840)
Arkwright, Sir R. (1732-1792)
Arne, T. (1710-1778)
Arnold, M. (1822-1888)
Arnold, T. (1795-1842)
Arthur, Sir G. (1784-1854)
Ascham, R. (1515-1568)
Atterbury, F. (1662-1732)
Austen, J. (1775-1817)
Austin, J. (1790-1859)

BABBAGE, C. (1792-1871)
Bacon, A. (1558-1601)
Bacon, F., Lord Verulam (1561-1626)
Bacon, Sir N. (1509-1579)
Bacon, R. (1214 ?-1294)
Bagehot, W. (1826-1877)
Baillie, J. (1762-1851)
Baily, F. (1774-1844)
Baker, Sir S. (1821-1893)
Balfe, M. W. (1808-1870)
Balfour, F. (1851-1882)
Bancroft, R. (1544-1610)
Banim, J. (1798-1842)
Banks, Sir J. (1743-1820)
Banks, T. (1735-1805)
Bannister, J. (1760-1836)
Barbauld, A. (1743-1825)
Barbour, J. (1316 ?-1395)
Barclay, A. (1475 ?-1552)
Barclay, J. (1582-1621)
Barclay, R. (1648-1690)
Barham, R. (1788-1845)
Barnes, W. (1801-1886)
Barnfield, R. (1574-1627)
Barrow, I. (1630-1677)
Barrow, Sir J. (1764-1848)
Barry, A. (1734-1801)
Barry, Sir C. (1795-1860)
Barry, E. (1658-1713)
Barry, J. (1741-1806)
Baskerville, J. (1706-1775)
Bateman, W. (1298 ?-1355)
Bates, H. W. (1825-1892)
Baxter, R. (1615-1691)

Beardsley, A. (1872-1898)
Beaton, D. (1494-1546)
Beaumont, F. (1584-1616)
Becher, E., Lady (1791-1872)
Beckford, W. (1759-1844)
Beddoes, T. (1803-1849)
Bede (673-735)
Bedell, W. (1571-1642)
Behn, A. (1640-1689)
Bell, A. (1753-1832)
Bell, Sir C. (1774-1842)
Bennett, Sir W. S. (1816-1875)
Benson, E. (1829-1896)
Bentham, G. (1800-1884)
Bentham, J. (1748-1832)
Bentley, R. (1662-1742)
Berkeley, G. (1685-1753)
Bessemer, Sir H. (1813-1898)
Bethell, R., Lord Westbury (1800-1873)
Betterton, T. (1635-1710)
Bewick, T. (1753-1828)
Bingham, J. (1668-1723)
Birch, S. (1813-1885)
Bishop, Sir H. (1786-1855)
Black, J. (1728-1799)
Blackmore, R. (1825-1900)
Blackstone, Sir W. (1723-1780)
Blake, R. (1599-1657)
Blake, W. (1757-1827)
Blow, J. (1648-1708)
Boece, H. (1465 ?-1536)
Boniface, St. (680-755)
Bonington, R. P. (1801-1828)
Bonner, E. (1500 ?-1569)
Booth, B. (1681-1733)
Borrow, J. (1803-1881)
Boscawen, E. (1711-1761)
Boswell, J. (1740-1795)
Bowen, C., Baron (1835-1894)
Bowring, Sir J. (1792-1872)
Boyce, W. (1710-1779)
Boyle, R., Earl of Cork (1566-1643)
Boyle, R. (1627-1691)
Bracegirdle, A. (1663-1748)
Bradford, W. (1590-1657)
Bradlaugh, C. (1833-1891)
Bradley, J. (1693-1762)
Bradshaw, H. (1831-1886)
Bradshaw, W. (1571-1618)
Bradwardine (1290 ?-1349)
Broke, Sir P. (1776-1841)
Brooke, Sir J. (1803-1868)
Breton, N. (1545 ?-1626)
Brewster, Sir D. (1781-1868)
Bright, J. (1811-1889)
Brontë, C. (1816-1855)
Brontë, E. (1818-1848)
Brougham, Lord (1778-1868)
Brown, F. M. (1821-1893)
Browne, H. K. (1815-1882)
Browne, R. (1550 ?-1633 ?)
Browne, Sir T. (1605-1682)
Browne, W. (1591-1643 ?)
Browning, E. B. (1806-1861)
Browning, R. (1812-1889)
Bruce, H., Baron Aberdare (1815-1895)
Bruce, J. (1730-1794)
Bruce, M. (1746-1767)
Buchanan, G. (1506-1582)
Buckle, H. T. (1821-1862)
Bull, J. (1563 ?-1628)
Bunyan J. (1628-1688)
Burbage, R. (1567 ?-1619)
Burges, C. (1589-1665)
Burke, E. (1729-1787)
Burne-Jones, Sir E. (1833-1898)
Burnet, G. (1643-1715)
Burns, R. (1759-1796)
Burton, Sir R. (1821-1890)
Burton, R. (1577-1640)
Butler, J. (1692-1752)
Butler, S. (1612-1680)
Butterfield, W. (1814-1900)
Byng, G., Viscount Torrington (1663-1733)
Byrd, W. (1538-1623)
Byron, G., Lord (1788-1824)

CADE, J. (——1450)
Cadogan, W., Earl (1675-1726)
Caedmon (*fl.* 670)
Cairns, H., Earl (1819-1885)
Caius, J. (1510-1573)
Calamy, E. (1671-1732)
Camden, W. (1551-1623)
Campbell, Sir C. (1792-1863)
Campbell, Sir G. (1824-1892)
Campbell, J., Baron (1779-1861)
Campbell, T. (1777-1844)
Campion, E. (1540-1581)
Campion, T. (——1619)
Candlish, R. (1806-1873)
Canning, C., Earl (1812-1862)
Canning, G. (1770-1827)
Canning, S., Viscount S. de Redcliffe (1786-1880)

Cantelupe, St. T. de (1218 ?-1282)
Canton, J. (1718-1772)
Carey, W. (1761-1834)
Carleton, W. (1794-1869)
Carlile, R. (1790-1843)
Carlyle, T. (1795-1881)
Carpenter, M. (1807-1877)
Carpenter, W. B. (1813-1885)
Carrington, R. (1826-1875)
Carstares, W. (1649-1715)
Cartwright, T. (1535-1603)
Case, T. (1598-1682)
Cattermole, G. (1800-1868)
Cavendish, H. (1731-1810)
Cavendish, M., Duchess of Newcastle (1624 ?-1674)
Cavendish, T. (1555 ?-1592)
Caxton, W. (1422 ?-1491)
Cayley, A. (1821-1895)
Cecil, W., Lord Burghley (1520-1598)
Centlivre, S. (1667 ?-1723)
Challoner, R. 1691-1781)
Chalmers, T. (1780-1847)
Chantry, Sir F. (1781-1842)
Chapman, G. (1559 ?-1634)
Chatterton, T. (1752-1770)
Chaucer, G. (1340 ?-1400)
Cheke, Sir J. (1514-1557)
Cheselden, W. (1688-1752)
Chesney, F. (1789-1872)
Chichele, H. (1362-1443)
Chichester, A. Lord (1563-1625)
Childers, H. (1827-1896)
Chillingworth, W. (1602-1644)
Church, R. (1815-1890)
Churchill, C. (1731-1764)
Churchill, J., Duke of Marlborough (1650-1722)
Cibber, C. (1671-1757)
Cibber, S. (1714-1766)
Clapperton, H. (1788-1827)
Clare, J. (1793-1864)
Clarke, S. (1675-1729)
Clifford, W. G. (1845-1879)
Clive, K. (1711-1785)
Clive, R., Lord (1725-1774)
Clough, A. (1819-1861)
Cobbett, W. (1762-1835)
Cobden, R. (1804-1865)
Cockburn, Sir A. (1802-1880)
Cockerell, C. (1788-1863)
Coke, Sir E. (1552-1634)
Colby, T. (1784-1852)
Colebrooke, H. T. (1765-1837)
Colenso, J. (1814-1883)
Coleridge, H. (1796-1849)
Coleridge, S. T. (1772-1834)
Colet, J. (1467-1519)
Collier, J. (1630-1726)
Collins, W. (1721-1759)
Collins, W. W. (1824-1889)
Colman, G., the elder (1732-1794)
Columba, St. (521-597)
Columban, St. (543-615)
Congreve, W. (1670-1729)
Conington, J. (1825-1869)
Constable, J. (1776-1837)
Cook, J. (1728-1779)
Cooke, G. F. (1756-1811)
Cooke, H. (1788-1868)
Cooper, A., First Lord Shaftesbury (1621-1683)
Cooper, A., Third Lord Shaftesbury (1671-1713)
Cooper, Sir A. (1768-1841)
Cooper, S., (1609-1672)
Copley, J. S. (1737-1815)
Copley, J. S., Lord Lyndhurst (1772 1863)
Cosin, J. (1594-1672)
Cotes, R. (1682-1716)
Cotman, J. (1782-1842)
Cotton, Sir A. T. (1803-1899)
Cotton, C. (1630-1687)
Cotton, Sir R. (1571-1631)
Coutances, W. de (——1207)
Coverdale, M. (1488-1568)
Cowley, A. (1618-1667)
Cowley, H. (1743-1809)
Cowper, W. (1731-1800)
Cox, D. (1783-1859)
Cozens, J. R. (1752-1799)
Crabbe, G. (1754-1832)
Cranmer, T. (1489-1556)
Crashaw, R. (1612-1649)
Creighton, M. (1843-1901)
Crichton, J. (1560-1585 ?)
Croker, J. W. (1780-1857)
Crome, J. (1768-1821)
Cromwell, O. (1599-1658)
Cromwell, T. (1485 ?-1540)
Cross, M. A. (1819-1880)
Cruikshank, G. (1792-1878)
Cudworth, R. (1617-1688)
Cullen, W. (1710-1790)
Curran, J. P. (1750-1817)
Cuthbert, St. (——687)

DALRYMPLE, J., Viscount Stair (1619-1695)
Dalton, J. (1766-1844)
Dampier, W. (1652-1715)
Danby, F. (1793-1861)
Daniel, S. (1562-1619)
Darwin, C. (1809-1882)
Darwin, E. (1731-1802)
D'Avenant, Sir W. (1606-1668)
Davies, Sir J. (1569-1626)
Davy, Sir H. (1778-1829)
Dawson, H. (1811-1878)
Day T. (1748-1789)
Deane, R. (1610-1653)
Dee, J. (1527-1608)
Defoe, D. (1659-1731)
Dekker, T. (1570 ?-1641 ?)
De Morgan, A. (1806-1871)
Dempster, T. (1579 ?-1625)
Denham Sir J. (1615-1669)
Denman, Lord (1779-1854)
De Quincey, T. (1785-1859)
D'Ewes, Sir S. (1602-1650)
Dibdin, C. (1745-1814)
Dickens, C. (1812-1870)
Digby, Sir K. (1603-1665)
Dobell, S. (1824-1874)
Dobson, W. (1610-1646)
Doddridge, P. (1702-1751)
Dodgson, C. (1832-1898)
Dodwell, H. (1641-1711)
Dolben, J. (1625-1686)
Donne, J. (1573-1631)
Douglas, G. (1474 ?-1522)
Dowland, J. (1563 ?-1626)
Doyle, R. (1824-1883)
Drake, Sir F. (1540 ?-1596)
Drayton, M. (1563-1631)
Drummond, T. (1797-1840)
Drummond, W. (1585-1649)
Dryden, J. (1631-1700)
Dudley, J., Duke of Northumberland (1502-1553)
Duff, A. (1806-1878)
Dugdale Sir W. (1605-1686)
Du Maurier, G. (1834-1896)
Dunbar, W. (1465 ?-1530 ?)
Duncan. A., Viscount (1731-1804)
Dundas, H., Viscount Melville (1742-1811)
Dunning, J., Baron Ashburton (1731-1783)
Duns, J. S. (1265 ?-1308 ?)
Dunstan, St. (924-988)
D'Urfey, T. (1653-1723)
Dyce, W. (1806-1864)

EASTLAKE, Sir C. (1793-1865)
Eastlake, Lady (1809-1893)
Edgeworth, M. (1767-1849)
Edmund, St. (1170 ?-1240)
Edwardes, Sir H. (1819-1868)
Edwards, A. B. (1831-1892)
Eliot, Sir J. (1592-1632)
Elliston, R. W. (1774-1831)
Elyot, Sir T. (1490-1546)
Emlyn, T. (1663-1741)
Erskine, E. (1680-1754)
Etheridge, Sir G. (1634-1691 ?)
Etty, W. (1787-1849)

FABER, F. (1814-1863)
Falconer, H. (1808-1865)
Fanshawe, Sir R. (1608-1666)
Faraday, M. (1791-1867)
Farquhar, G. (1678-1707)
Faucit, H. (1817-1898)
Fawcett, H. (1833-1884)
Ferguson, J. (1710-1776)
Fergusson, R. (1750-1774)
Ferrar, N. (1592-1637)
Ferrier, S. (1782-1854)
Fielding, H. (1707-1754)
Fitzgerald, E. (1809-1883)
Fitzgibbon, J., Earl of Clare (1749-1802)
Flamsteed, J. (1646-1719)
Flaxman, J. (1755-1826)
Fletcher, A. (1655-1716)
Fletcher, J. (1579-1625)
Flinders, M. (1774-1814)
Flood, H. (1732-1791)
Flower, Sir W. (1831-1899)
Foote, S. (1720-1777)
Forbes, E. (1815-1854)
Forbes, J. D. (1809-1868)
Ford, J. (1586-1639 ?)
Forster, W. E. (1818-1886)
Fortescue, Sir J. (1394-1476 ?)
Fox, C. J. (1749-1806)
Fox, G. (1624-1691)
Foxe, J. (1516-1587)
Foxe, R. (1448 ?-1528)
Francis, Sir P. (1740-1818)
Frankland, Sir E. (1825-1899)
Franklin, Sir J. (1786-1847)
Franks, Sir A. (1826-1897)
Freeman, E. (1823-1892)

Frere, Sir B. (1815-1884)
Frobisher, Sir M. (1535-1594)
Froude, J. A. (1818-1894)
Fry, E. (1780-1845)
Fuller, T. (1608-1661)

GAINSBOROUGH, T. (1727-1788)
Galt, J. (1779-1839)
Gardiner, S. (1483 ?-1555)
Garnett, H. (1555-1606)
Garrick, D. (1717-1779)
Gascoigne, G. (1523 ?-1579)
Gaskell, E. C. (1810-1865)
Gauntlett, H. (1805-1876)
Gay, J. (1685-1732)
Geoffrey of Monmouth (1100 ?-1154)
Gibbon, E. (1737-1794)
Gibbons, O. (1583-1625)
Gibson, J. (1790-1866)
Gifford, W. (1756-1826)
Gilbert, Sir H. (1539 ?-1583)
Gilbert, Sir J. (1817-1897)
Gilbert, W. (1540-1603)
Gillray, J. (1757-1815)
Giraldus Cambrensis (1146 ?-1220 ?)
Girtin, T. (1775-1802)
Gladstone, W. E. (1809-1898)
Glisson, F. (1597-1677)
Godwin, M. W. (1759-1797)
Godwin, W. (1756-1836)
Goldsmith, O. (1728-1774)
Gordon, C. G. (1833-1885)
Gower, J. (1325 ?-1408)
Graham, Sir G. (1831-1899)
Graham, J., Viscount Dundee (1649?-1689)
Grattan, J. (1746-1820)
Gray, T. (1716-1771)
Green, J. R. (1837-1883)
Greene, R. (1560 ?-1592)
Grenville, G. (1712-1770)
Grenville, W. Baron (1759-1834)
Gresham, Sir T. (1519 ?-1579)
Grew, N. (1641-1712)
Grey, Sir G. (1812-1898)
Grocyn, W. (1446 ?-1519)
Grosseteste, R. (1175 ?-1253)
Grote, G. (1794-1871)

HALE, Sir M. (1609-1676)
Hales, J. (1584-1656)
Hales, S. (1677-1761)
Hall, J. (1574-1656).
Hallam, H. (1777-1859)
Halley, E. (1656-1742)
Halliwell-Phillips, J. (1820-1889)
Hamilton, A. (1646 ?-1720)
Hamilton, Sir W. (1788-1856)
Hamilton, Sir W. R. (1805-1865)
Hamilton, T., Earl of Haddington (1563-1637)
Hamley, Sir E. (1824-1893)
Hampden, J. (1594-1643)
Hardinge, H., Viscount (1785-1856)
Harrington. J. (1611-1677)
Hartley, D. (1705-1757)
Harvey, W. (1578-1657)
Hastings, W. (1732-1818)
Havelock, Sir H. (1795-1857)
Hawke, E., Lord (1705-1781)
Hawkins, Sir J. (1532-1595)
Hawkwood, Sir J. de (——1304)
Haydon, B. W. (1786-1846)
Hazlitt, W. (1778-1830)
Hemans, F. (1793-1835)
Henderson, A. (1583 ?-1646)
Herbert, A., Earl of Torrington (1647-1716)
Herbert, of Cherbury, E., Lord (1583-1648)
Herbert, G. (1593-1633)
Herrick, R. (1591-1674)
Herschel, Sir J. (1792-1871)
Heylin, P. (1600-1662)
Heywood, J. (1497 ?-1580)
Heywood, T. (1650)
Hickes, G. (1642-1715)
Hill, Sir R. (1795-1879)
Hinton, J. (1822-1875)
Hoadley, B. (1676-1761)
Hobbes, T. (1588-1679)
Hodgson, B. (1800-1894)
Hogarth, W. (1697-1764)
Hogg, J. (1770-1835)
Holcroft, T. (1745-1809)
Holl, F. (1845-1888)
Hood, S., Viscount (1724-1816)
Hood, T. (1799-1845)
Hook, T. (1788-1841)
Hook, W. (1798-1875)
Hooke, R. (1635-1703)
Hooker, R. (1554-1600)
Horner, F. (1778-1817)
Horrocks, J. (1617 ?-1641)
Hort, F. (1828-1892)
Howard, J. (1726-1790)
Howell, J. (1594-1666)
Hubert, Walter (——1205)

Hughes, T. (1822-1896)
Hume, D. (1711-1776)
Hunt, L. (1784-1859)
Hunter, J. (1728-1893)
Hunter, Sir W. (1840-1900)
Huskisson, W. (1770-1830)
Hutcheson, F. (1694-1746)
Hutton, J. (1726-1797)
Hutton, R. H. (1826-1897)
Huxley, T. H. (1825-1895)
Hyde, E., Earl of Clarendon (1609-1674)

INCHBALD, E. (1753-1821)
Ireton, H. (1611-1651)
Irving, E. (1792-1834)

JAMESON, A. (1794-1860)
Jeffrey, F., Lord (1773-1850)
Jenner, E. (1749-1823)
Jerrold, D. (1803-1857)
Jervis, J., Earl of St. Vincent (1735-1823)
Jevons, W. S. (1835-1882)
Jewel, J. (1522-1571)
John of Salisbury (——1180)
Johnson, S. (1709-1784)
Johnston, A., Lord Warriston (1610 ?-1663)
Jones, I. (1573-1652)
Jones, Sir J. T. (1783-1843)
Jones, Sir W. (1746-1794)
Jones, W. B. 1822-1897)
Jonson, B. (1573-1637)
Jordan, D. (1762-1816)
Joule, J. P. (1818-1889)
Jowett, B. (1817-1893)
Juxon, W. (1582-1663)

KEAN, E. (1787-1833)
Keats, J. (1795-1821)
Keble, J. (1792-1866)
Keeley, M. A. (1805-1895)
Keene, C. (1823-1891)
Kelly, F. (1790-1882)
Kemble, F. A. (1809-1893)
Kemble, J. M. (1807-1857)
Kemble, J. P. (1757-1823)
Kemp, J. (1380-1447)
Ken, T. (1637-1711)
Kennett, W. (1660-1728)
Kenyon, L., Lord (1732-1802)
Killigrew, T. (1612-1683)
King, T. (1730-1805)
King, W. (1650-1729)
Kingsley, C. (1819-1875)
Kingsley, M. (1862-1900)
Kirkcaldy, Sir W. (1573)
Knight, G. (1713-1772)
Knollys, Sir R. (1407)
Knowles, J. S. (1784-1862)
Knox, J. (1505-1572)

LAKE, G., VISCOUNT (1744-1808)
Lamb, C. (1775-1834)
Lambert, J. (1619-1683)
Lancaster, J. (1778-1838)
Lander, R. (1804-1834)
Landon, L. E. (1802-1838)
Landor, W. S. (1775-1864)
Landseer, Sir E. (1802-1873)
Lane, E. (1801-1876)
Langland, W. (1330 ?-1400 ?)
Langton, S. (1228)
Langton, W. (1321)
Lardner, N. (1684-1768)
Latimer, H. (1485 ?-1555)
Laud, W. (1573-1645)
Law, E., Baron Ellenborough (1750-1818)
Law, E., Earl of Ellenborough (1790-1871)
Law, J. (1671-1729)
Law, W. (1686-1761)
Lawes, H. (1596-1662)
Lawes, Sir J. B. (1814-1900)
Lawrence, Sir H. (1806-1857)
Lawrence, J., Lord (1811-1879)
Lawrence, S. (1698-1775)
Lawrence, Sir T. (1769-1830)
Layard, Sir A. H. (1817-1894)
Leake, Sir T. (1656-1720)
Lee, N. (1653 ?-1692)
Leech, J. (1817-1864)
Lefroy, Sir J. (1817-1890)
Leighton, F., Baron (1830-1896)
Leighton, R. (1611-1684)
Leland, J. (1506 ?-1552)
Leslie, A., Earl of Leven (1582-1661)
Leslie, C. (1650-1722)
Leslie, J. (1527-1596)
L'Estrange, Sir R. (1616-1704)
Lever, C. J. (1806-1872)
Lewes, G. H. (1817-1878)
Lewis, Sir G. C. (1806-1863)
Lewis, J. F. (1805-1876)
Lewis, W. T. (1748 ?-1811)
Liddon, H. P. (1829-1890)

Lightfoot, J. B. (1828-1889)
Lilburne, J. (1614 ?-1657)
Lillo, G. (1693-1739)
Linacre, T. (1460 ?-1524)
Lindsay, Sir D. (1490-1555)
Lingard, J. (1771-1851)
Linnell, J. (1792-1882)
Linton, E. L. (1822-1898)
Linton, W. J. (1812-1898)
Lister, J. (1786-1869)
Liston, J. (1776-1846)
Littleton, Sir T. (1402-1481)
Livingstone, D. (1813-1873)
Lloyd, J. (1627-1717)
Locke, J. (1632-1704)
Lockhart, J. (1794-1854)
Lodge, T. (1558-1625)
Loftus, A. (1533-1605)
Lovelace, R. (1618-1658)
Lover, S. (1797-1868)
Lowe, R., Viscount Sherbrooke (1811-1892)
Lowth, R. (1710-1787)
Lucas, C. (1713-1771)
Ludlow, E. (1617-1692)
Lydgate, J. (1370 ?-1451)
Lyell, Sir C. (1797-1875)
Lyly, J. (1554 ?-1606)
Lytton, E. B., Earl of (1831-1891)
Lytton, E. B., Lord (1803-1873)

MACAULAY, T., Lord (1800-1859)
Macdonald, Sir J. A. (1815-1891)
Macfarren, Sir G. (1813-1887)
Mackay, H. (1640 ?-1692)
Mackintosh, Sir J. (1765-1832)
Mackenzie, H. (1745-1831)
Macklin, C. (1697 ?-1797)
Maclaurin C. (1698-1746)
Maclise, D. (1806-1870)
Macnaghten, Sir W. (1793-1841)
Macready, W. C. (1793-1873)
Maginn, W. (1793-1842)
Maine, Sir H. S. (1822-1888)
Malcolm, Sir J. (1769-1833)
Malone, E. (1741-1812)
Malthus, T. (1766-1834)
Manning, H. E. (1807-1892)
Map, W. (*fl.* 1200)
Marlowe, C. (1564-1593)
Marryat, F. (1792-1848)
Marsh, H. (1757-1839)
Marshall, S. (1594 ?-1655)
Marston, J. (1575-1634)
Marten, H. (1602-1680)
Martineau, H. (1802-1876)
Martineau, J. (1805-1900)
Marvell, A. (1621-1678)
Massinger, P. (1583-1640)
Mathews, C. (1776-1835)
Mathews, C. J. (1803-1878)
Maurice, F. D. (1805-1872)
Maxwell, J. C. (1831-1879)
Mayow, J. (1643-1679)
Mead, R. (1673-1754)
Melville, A. (1545-1622)
Merivale, C. (1808-1893)
Middleton, C. (1683-1750)
Middleton, T. (1570 ?-1627)
Mill, J. (1773-1836)
Mill, J. S. (1806-1873)
Millais, Sir J. (1829-1896)
Miller, H. (1802-1856)
Milman, H. (1791-1868)
Milner, I. (1750-1820)
Milner, J. (1752-1826)
Milton, J. (1608-1674)
Mitchell, Sir T. (1792-1855)
Mitford, M. (1787-1855)
Moffat, R. (1795-1883)
Monck, G., Duke of Albemarle (1608-1670)
Monson, Sir W. (1569-1643)
Montagu, C., Earl of Halifax (1661-1715)
Montagu, E. (1720-1800)
Montagu, R. (1577-1641)
Moore, Sir J. (1761-1809)
Moore, T. (1779-1852)
More, H. (1745-1833)
More, Sir T. (1478-1535)
Morgan, Sir G. O. (1826-1897)
Morgan, Sir H. (1635 ?-1688)
Morgan, Lady S. (1783 ?-1859)
Morland, G. (1763-1804)
Morland, Sir S. (1625-1695)
Morley, G. (1597-1684)
Morris, W. (1834-1896)
Morton, T. (1564-1659)
Mulready, W. (1786-1863)
Mun, T. (1571-1641)
Munday, A. (1553-1633)
Mundella, A. J. (1825-1897)
Munden, J. (1758-1832)
Munro, Sir T. (1761-1827)
Murchison, Sir R. (1792-1871)
Murdock, W. (1754-1839)

Murray, J. (1778-1843)
Myers, F. W. (1843-1901)

NAIRNE, C., Baroness (1766-1845)
Napier, Sir C. (1786-1860)
Napier, Sir C. J. (1782-1853)
Napier, J. (1550-1617)
Napier, Sir J. (1804-1882)
Napier, R. C., Lord (1810-1890)
Napier, Sir W. J. P. (1785-1860)
Nash, T. (1567-1601)
Nasmyth, J. (1808-1890)
Nasmyth, P. (1787-1831)
Naylor, J. (1617 ?-1660)
Neale, E. V. (1810-1892)
Neale, J. M. (1818-1866)
Needham, M. (1620-167)
Neill, J. G. S. (1810-1857)
Neilson, J. (1792-1865)
Neilson, L. A. (1848-1880)
Nelson, H., Lord (1758-1805)
Newcomen, T. (1663-1729)
Newman, F. W. (1805-1897)
Newman, J. H. (1801-1890)
Newton, Sir I. (1642-1727)
Nicholson, J. (1821-1857)
Northcote, J. (1746-1831)
Norton, T. (1532-1584)
Nott, Sir W. (1782-1845)
Nowell, A. (1507 ?-1602)
Noye, W. (1577-1634)

OCHTERLONY, Sir D. (1758-1825)
Ockham, W. (——1349 ?)
Ockley, S. (1678-1720)
O'Connell, D. (1775-1847)
Oglethorpe, J. E. (1696-1785)
Oldcastle, Sir J. (——1417)
Oldfield, A. (1683-1730)
Oldys, W. (1696-1761)
O'Leary, A. (1729-1802)
Oliphant, L. (1829-1888)
Oliphant, M. (1828-1897)
O'Neill, D. (1612-1664)
Opie, A. (1769-1853)
Opie, J. (1761-1807)
Ordericus Vitalis (1075-1143 ?)
Otway, T. (1652-1685)
Oughtred, W. (1575-1660)
Outram, Sir J. (1803-1863)
Owen, J. (1616-1683)
Owen, Sir R. (1804-1892)
Owen, R. (1771-1858)

PAGET, Sir J. (1814-1899)
Paget, W. Baron (1505-1563)
Paine, T. (1737-1809)
Paley, W. (1743-1805)
Palmer, E. H. (1840-1882)
Palmer, J. (1742 ?-1798)
Palmer, R., Earl Selbourne (1812-1895)
Palmer, S. (1805-1881)
Paris, M. (——1259 ?)
Park, M. (1771-1806)
Parker, M. (1504-1575)
Parker, T., Earl Macclesfield (1667-1732)
Parkes, E. A. (1819-1876)
Parkes, Sir H. S. (1828-1885)
Parkes, Sir H. (1815-1896)
Parnell, C. S. (1846-1891)
Parr, S. (1747-1825)
Parsons, R. (1546-1610)
Parsons, W. (1736-1795)
Pater, W. H. (1839-1894)
Paterson, W. (1658-1719)
Patmore, C. (1823-1896)
Patrick, St. (373-463)
Pattison, M. (1813-1884)
Payne, P. (1380 ?-1455)
Pearson, J. (1613-1686)
Pearson, J. L. (1817-1897)
Pecock, R. (1395 ?-1460 ?)
Peel, Sir R. (1788-1850)
Peele, G. (1558 ?-1597 ?)
Peirce, J. (1674 ?-1726)
Pellew, E., Viscount Exmouth (1757-1833)
Penn, Sir W. (1621-1670)
Penn, W. (1644-1718)
Penry (1559-1593)
Pepys, S. (1633-1703)
Perkins, W. (1558-1602)
Perry, J. (1756-1821)
Peters, H. (1598-1660)
Petty, Sir W. (1623-1687)
Phelps, S. (1804-1878)
Phillip, J. (1817-1867)
Picton, Sir T. (1758-1815)
Pitman, Sir I. (1813-1897)
Pitt, W., Earl of Chatham (1708-1778)
Pitt, W. (1759-1806)
Pococke, E. (1604-1691)
Pollock, Sir G. (1786-1872)
Pope, A. (1688-1744)
Popham, Sir H. R. (1762-1820)

Porson, R. (1759-1808)
Pott, P. (1714-1788)
Powell, V. (1617-1670)
Pownall, T. (1722-1802)
Pratt, C., Earl Camden (1714-1794)
Preston, J. (1587-1628)
Prestwich, Sir J. (1812-1896)
Price, R. (1723-1791)
Priestley, J. (1733-1804)
Prior, M. (1664-1721)
Prynne, W. (1600-1669)
Pugin, A. W. (1812-1852)
Pulteney, W., Earl of Bath (1684-1764)
Purcell, H. (1658 ?-1695)
Pusey, E. B. (1800-1882)
Pym, J. (1584-1643)

QUARLES, F. (1592-1644)
Quin, J. (1693-1766)

RADCLIFFE, A. (1764-1823)
Raeburn, Sir H. (1756-1823)
Raffles, Sir T. (1781-1826)
Raleigh, Sir W. (1552 ?-1618)
Randolph, T. (1605-1635)
Ray, J. (1627-1705)
Reade, S. (1814-1884)
Reid, T. (1710-1796)
Reid, Sir W. (1781-1858)
Reynolds, Sir J. (1723-1792)
Richardson, S. (1689-1761)
Ridley, N. (1500 ?-1555)
Ritson, J. (1752-1803)
Robertson, W. (1721-1793)
Robinson, H., Baron Rosmead (1824-1897)
Rodney, G., Baron (1719-1792)
Roe, Sir T. (1581 ?-1644)
Rogers, S. (1763-1855)
Romney, G. (1734-1802)
Roscoe, W. (1753-1831)
Rose, G. (1744-1818)
Ross, Sir H. D. (1779-1868)
Ross, R. (1766-1814)
Rossetti, C. (1830-1894)
Rossetti, D. G. (1828-1882)
Rowe, N. (1674-1718)
Rowlandson, T. (1756-1827)
Ruskin, J. (1819-1900)
Russell, C., Baron (1832-1900)

SABINE, Sir E. (1788-1883)
Sacheverell, W. (1638-1691)
Sadler, M. T. (1780-1835)
St. John, O. (1598 ?-1673)
St. Leger, Sir A. (1496 ?-1559)
Sale, Sir R. (1782-1845)
Salesbury, W. (1520 ?-1600?)
Sancroft, W. (1617-1693)
Sandby, P. (1725-1809)
Savage, R. (——1743)
Savile, Sir H. (1549-1622)
Scarlett, J., Baron Abinger (1769-1844)
Scott, D. (1806-1849)
Scott, Sir G. G. (1811-1878)
Scott, J., Earl of Eldon (1751-1838)
Scott, Sir W. (1771-1832)
Scott, W., Lord Stowell (1745-1836)
Scotus Erigena (*fl.* 850)
Sedgwick, A. (1785-1873)
Seeley, Sir J. (1834-1895)
Selden, J. (1584-1654)
Shakespeare, W. (1564-1616)
Sharp, J. (1645-1714)
Sheil, R. L. (1791-1851)
Sheldon, G. (1598-1677)
Shelley, P. B. (1792-1822)
Sheridan, R. B. (1751-1816)
Shirley, J. (1596-1666)
Siddons, S. (1755-1831)
Sidgwick, H. (1838-1899)
Sidney, Sir P. (1554-1586)
Simpson, Sir J. Y. (1811-1870)
Sinclair, Sir J. (1754-1835)
Skelton, J. (146- ?-1529)
Smart, C. (1722-1771)
Smith, A. (1753-1790)
Smith, Sir H. G. (1787-1860)
Smith, H. J. S. (1826-1883)
Smith, R. A. (1817-1884)
Smith, Sydney, (1771-1845)
Smith, Sir T. (1513-1577)
Smith, W. (1769-1839)
Smith, W. R. (1846-1894)
Smith, Sir W. S. (1764-1840)
Smollett, T. (1721-1771)
Somers, J., Lord (1651-1716)
Somerville, M. (1780-1872)
South, R. (1634-1716)
Southey, R. (1774-1843)
Southwell, R. (1561 ?-1595)
Speke, J. (1827-1864)
Spelman, Sir H. (1564 ?-1641)
Spenser, E. (1552 ?-1599)
Sprat, T. (1635-1713)

Stanhope, W., Earl of Harrington (1690 ?-1756)
Stanley, A. P. (1815-1881)
Steele, Sir R. (1672-1729)
Steevens, G. (1736-1800)
Stephen, Sir J. F. (1829-1894)
Stephenson, G. (1781-1848)
Sterne, L. (1713-1768)
Stevens, A. (1818-1875)
Stevenson, R. L. (1850-1894)
Stewart, D. (1753-1828)
Stothard, T. (1755-1834)
Stow, J. (1525-1605)
Street, G. E. (1824-1881)
Stubbs, G. (1724-1806)
Sturgeon, W. (1783-1850)
Suckling, Sir J. (1609-1642)
Sullivan, Sir A. (1842-1900)
Swift, J. (1667-1745)
Sydenham, T. (1624-1689)
Symonds, J. A. (1840-1893)

TAIT, A. C. (1811-1882)
Tallis, T. (1510 ?-1585)
Tarleton, Sir B. (1754-1833)
Taylor, Sir H. (1800-1886)
Taylor, J. (1613-1667)
Taylor, W. (1765-1836)
Telford, T. (1757-1834)
Temple, Sir W. (1628-1699)
Tennyson, A., Baron (1809-1892)
Thackeray, W. M. (1811-1863)
Thirlwall, C. (1797-1875)
Thomas, W. (——1554)
Thompson, W. (1785 ?-1833)
Thomson, J. (1700-1748)
Thurloe, J. (1616-1668)
Thurlow, E., Baron (1731-1806)
Tillotson, J. (1630-1694)
Toland, J. (1670-1722)
Tone, T. W. (1763-1798)
Tooke, J. H. (1736-1812)
Trelawney, E. J. (1792-1881)
Trevitheck, R. (1771-1833)
Trollope, A. (1815-1882)
Trollope, Sir H. (1756-1839)
Tunstall, C. (1474-1559)
Turner, J. M. W. (1775-1851)
Tye, C. (1497 ?-1572)
Tyndale, W. (1490 ?-1536)
Tyndall, J. (1820-1893)

UDALL, N. (1505-1556)
Urquhart, Sir T. (1611-1660)
Ussher, J. (1581-1656)

VANBRUGH, Sir J. (1663-1726)
Vane, Sir H., the younger (1613-1662)
Varley, J. (1778-1842)
Vaughan, H. (1622-1695)
Vere, Sir F. (1560-1609)
Vere, Sir H. (1565-1635)
Vernon, E. (1684-1757)

WAKLEY, T. (1795-1862)
Walker, F. (1840-1875)
Wallace, Sir W. (1272 ?-1305)
Waller, E. (1606-1687)
Waller, Sir W. (1597 ?-1668)
Wallis, J. (1616-1703)
Walpole, H., Earl of Orford (1717-1797)
Walpole, R., Earl of Orford (1676-1745)
Walsh, P. (1618 ?-1688)
Walsingham, Sir F. (1530 ?-1590)
Walter, J. (1739-1812)
Walton, I. (1593-1683)
Warburton, W. (1698-1779)
Ward, M. (1585-1645)
Ward, S. (1617-1689)
Ward, W. G. (1812-1882)
Warham, W. (1450 ?-1532)
Warton, T. (1728-1790)
Watson, R. (1737-1816)
Watson, T. (1557 ?-1592)
Watt, J. (1736-1819)
Waynflete, W. of (1395 ?-1486)
Webster, B. (1797-1882)
Wedgwood, J. (1730-1795)
Wentworth, W. C. (1793-1872)
Wesley, C. (1707-1788)
Wesley, J. (1703-1791)
Westmacott, Sir R. (1775-1856)
Whately, R. (1787-1863)
Wheatstone, Sir C. (1802-1875)
Whewell, W. (1794-1866)
Whiston, W. (1667-1752)
Whitbread, S. (1758-1815)
White, G. (1720-1793)
White, J. B. (1775-1841)
Whitefield, J. (1714-1770)
Whitehead, G. (1636 ?-1723)
Whitelocke, B. (1605-1675)
Whitgift, J. (1530 ?-1604)
Whittington, R. (——1423)
Whitworth, Sir J. (1803-1887)

Wilberforce, S. (1805-1873)
Wilberforce, W. (1759-1833)
Wilde, O. (1856-1900)
Wilfrid, St. (634-709)
Wilkes, J. (1727-1797)
Wilkie, Sir D. (1785-1841)
Wilkins, J. (1614-1672)
Wilks, R. (1665 ?-1732)
Willet, A. (1562-1621)
William of Malmesbury (——1143 ?)
William of Newburgh (1136-1198 ?)
Williams, Sir C. H. (1708-1759)
Williams, D. (1643 ?-1716)
Williams, Sir R. (1540 ?-1595)
Williams, R. (1604 ?-1683)
Williams, Sir W. (1634-1700)
Williamson, Sir J. (1633-1701)
Williamson, W. C. (1816-1895)
Willoughby, Sir N. J. (1777-1849)
Wilson, J. (1785-1854)
Wilson, R. (1714-1782)
Wilson, Sir R. (1777-1849)
Wilson, T. (1663-1755)
Windham, W. (1750-1810)
Winthrop, J. (1588-1649)
Winwood, Sir R. (1563 ?-1617)
Wiseman, N. (1802-1865)
Wishart, G. (1513 ?-1546)
Wither, G. (1588-1667)
Woffington, M. (1714 ?-1760)
Wolcot, J. (1738-1819)
Wolfe J. (1727-1759)
Wollaston, W. H. (1766-1828)
Wolsey, T. (1471 ?-1530)
Woodward, H. (1714-1777)
Woolner, T. (1825-1892)
Wordsworth, Charles (1806-1892)
Wordsworth, Christopher (1807-1885)
Wordsworth, W. (1770-1850)
Wotton, Sir H. (1568-1639)
Wotton, N. (1497 ?-1567)
Wren, Sir C. (1632-1723)
Wright, J. (1734-1797)
Wright, T. (1810-1877)
Wulfstan, St. (1012 ?-1095)
Wyatt, Sir T. (1503 ?-1542)
Wycherley, W. (1640 ?-1716)
Wycliffe, J. (1324 ?-1384)
Wykeham, W. of (1324-1404)
Wyse, Sir T. (1791-1862)

YATES, M. A. (1728-1787)
Yorke, P., Earl of Hardwicke (1690-1764)
Young, A. (1741-1820)
Young, E. (1683-1765)
Young, T. (1773-1829)

At various points it has been necessary to classify our eminent persons into groups, according to the character of their intellectual activities. It may be convenient here to present these groupings. It should be noted that a few individuals (distinguished by an asterisk) appear in more than one list, and that some miscellaneous persons have been omitted altogether. In a large number of cases the question of classification is difficult and remains doubtful, although a considerable amount of care has been exercised in such cases. Difference of opinion must also

necessarily exist on the question of duplication and the extent to which it should be carried. The eminent women have been grouped separately.

Actors.—Bannister, Betterton, Booth, Burbage, Cibber, Cooke, Elliston, Foote, Garrick, Kean, Kemble, King, Lewis, Liston, Macklin, Macready, C. Mathews, C. J. Mathews, Munden, Palmer, Parsons, Phelps, Quin, Webster, Wilks, Woodward.

Artists.—Adam, Banks, C. Barry, J. Barry, Beardsley, Bewick, Blake,* Bonington, Brown, Browne, Burne-Jones, Butterfield, Cattermole, Chantrey, Cockerell, Constable, Cooper, Copley, Cotman, Cox, Cozens, Crome, Cruikshank, Danby, Dawson, Dobson, Doyle, Du Maurier, Dyce, Eastlake, Etty, Flaxman, Gainsborough, Gibson, Gilbert, Gillray, Girtin, Haydon, Hogarth, Holl, Inigo Jones, Keene, Landseer, Lawrence, Leech, Leighton, Lewis, Linnell, Linton, Maclise, Millais, Morland, Morris,* Mulready, Nasmyth, Northcote, Opie, Palmer, Pearson, Phillip, Pugin, Raeburn, Reynolds, Romney, Rossetti,* Rowlandson, Sandby, D. Scott, G. Scott, Stevens, Stothard, Street, Stubbs, Turner, Vanbrugh,* Varley, Walker, Westmacott, Wilkie, Wilson, Woolner, Wren, Wright.

Divines.—Abbot, Adrian IV., Ainsworth, Alesius, Allen, Andrewes,* Atterbury, Bancroft, Barclay, Barrow,* Baxter, Bedell, Benson, St. Boniface, Bonner, Bradshaw, Browne, Burges, Burnet,* Butler,* Campion, Candlish, St. Thomas de Cantelupe, Carey, Cartwright, Challoner, Chalmers, Chichele, Chillingworth, Church, Clarke, Colenso, St. Columba, St. Columban, Cooke, Cosin, Coverdale, Cranmer, Cudworth, St. Cuthbert, Dolben, Doddridge, Donne,* Duff, St. Dunstan, St. Edmund, Emlyn, Erskine, Faber, Ferrar, Fox, Foxe,* Fuller, Garnett, Henderson,* Heylin, Hoadley, Hook, Hooker, Irving, Jewel, Jones, Juxon, Keble,* Ken, King, Knox,* Langton,* Lardner, Latimer, Laud, Law, Leighton, Leslie, Liddon, Lightfoot, Lloyd, Loftus, Manning, Marsh, Marshall, Martineau, Maurice, Melville, Middleton, Milner, Moffat, Montague, Morley, Naylor, Neale, Newman, Nowell, Owen, Paley,* Parker, Parsons, St. Patrick, Payne, Pearson,* Pecock, Peirce, Penry, Perkins, Peters, Powell, Preston, Pusey, Ridley, Sancroft, Sharp, Sheldon, South, Stanley,* Tait, Taylor, Tillotson, Tyndale,* Walsh, Warham, C. Wesley, J. Wesley, Blanco White, Whitefield, Whitehead, Whitgift, Wilberforce, St. Wilfrid, Willett, D. Williams, R. Williams, Wilson, Wiseman, Wishart, Wordsworth, St. Wulfstan, Wycliffe.*

Doctors.—Caius,* Cheselden, Cooper, Cullen, Linacre,* Mead, Paget, Pott, Simpson, Sydenham. (Others are included among *Men of Science.*)

Lawyers. — Abinger, Ashburton, Austin, Blackstone, Bowen, Cairns, Camden, Campbell, Clare, Cockburn, Coke, Curran, Denman, Eldon, Ellenborough, Fortescue, Haddington, Hale, Hardwicke, Kenyon, Littleton, Lyndhurst, Macclesfield, Maine, More,* J. Napier, Noye, Russell, St. John, Selbourne, Selden, Somers, Stair, Stephen, Stowell, Thurlow, Westbury, Williams.

Men of Letters.—Addison, Alcuin, Ascham, Bagehot, Banim, Barclay, Beckford, Bede, Blackmore, Borrow, Boswell, Browne, Buchanan,* Buckle,

Bunyan, Burton, Calamy, Camden, Carleton, Carlile, Caryle, Cibber,* Cobbett,* Collier, Wilkie Collins, Colman, Congreve, Cotton, Cowley, Croker, D'Avenant, Day, Defoe, Dekker, Dempster, De Quincey, D'Ewes, Dickens, Digby, Dodgson,* Dugdale, Elyot, Etheridge, Fanshawe, Farquhar, Fielding, Foxe, Francis, Freeman, Froude, Galt, Geoffrey of Monmouth, Gibbon, Gifford, Giraldus, Goldsmith, Green, Grote, Hall, Hallam, Halliwell-Phillips, Hamilton, Harrington, Hazlitt, Herbert, Holcroft, Hood, Hook, Howell, Hughes, Hume,* Hunt, Hunter, Hutton, Jeffrey, Jerrold, Johnson, Jonson, Kemble, Kennett, Killigrew, Kingsley, Knowles, Lamb, Landor, Lee, Leland, L'Estrange, Lever, Lewes, Lillo, Lingard, Lockhart, Lodge, Lover, Lyly, Lytton, Macaulay, Mackenzie, Maginn, Malone, Map, Marryatt, Marston, Miller,* Merivale, Milman, More,* Myers, W. J. P. Napier, Nash, Needham, Newman, Oliphant, Oldys, Ordericus Vitalis, Paine, Paris, Pater, Pepys, Perry, Prynne, Raleigh,* Reade, Richardson, Ritson, Robertson, Roscoe, Ruskin, Scott, Seeley, Sheil, Sheridan,* Smollett, Southey, Sprat, Sidney Smith, Stanley,* Steele, Sterne, Steevens, Stevenson, Stow, Swift, Symonds, H. Taylor, W. Taylor, Temple,* Thackeray, Thirlwall, Trelawney, Trollope, Tyndale, Udall, Urquhart, Vanbrugh,* Wakley,* H. Walpole, Walton, Warburton, Warton, Whately, Wilde, William of Malmesbury, William of Newburgh, Williams, Wilson, Wolcot, Wright, Wycherley.

Men of Science.—Adams, Airy, Arkwright, Armstrong, Babbage, R. Bacon,* Baily, Balfour, Banks, Barrow,* Baskerville, Bates, Bell, Bentham, Bessemer, Birch, Black, Boyle, Bradley, Brewster, Canton, Carpenter, Carrington, Cavendish, Cayley, Caxton, Clifford, Colby, Cotes, Cotton, Dalton, C. Darwin, E. Darwin, Davy, Dee, De Morgan, Dodgson,* Drummond, Falconer, Faraday, Ferguson, Flamsteed, Flinders,* Flower, E. Forbes, J. D. Forbes, Frankland, Franks, Gilbert, Glisson, Grew, Hales, Halley, Hamilton, Harvey, Herschel, Hodgson, Hooke, Horrocks, Hunter, Hutton, Huxley, Jenner, Jevons, Joule, Knight, Lawes, Lefroy, Lister, Lyell, Maclaurin, Malthus, Mayow, Maxwell, Miller,* Milner, Morland, Mun, Murchison, Murdoch, Napier, Nasmyth, Neilson, Newcomen, Newton, Oughtred, Owen, Parkes, Petty, Priestley, Ray, Sabine,* Sadler, Sedgwick, Sidgwick, Sinclair, A. Smith, H. J. Smith, R. A. Smith, W. Smith, Stephenson, Sturgeon, Telford, Thompson, Trevitheck, Tyndall, Wallis, Ward, Watson, Watt, Wedgwood, Wheatstone, Whewell, White, Whitworth, Wilkins, Williamson, Wollaston, A. Young, T. Young.

Musical Composers.—Arne, Balfe, Bennett, Blow, Boyce, Byrd, Dowland, Gauntlett, Gibbons, Lawes, Macfarren, Purcell, Sullivan, Tallis, Tye.

Philosophers.—Alexander of Hales, F. Bacon, Roger Bacon,* Bentham, Berkeley, Bradwardine, Butler,* Duns, Erigena, Godwin, Hamilton, Hartley, Hinton, Hobbes, Hume,* Hutcheson, Locke, Mackintosh, J. Mill, J. S. Mill, Ockham, Paley,* Price, Reid, Shaftesbury, Stewart, Toland, Ward, Wycliffe.*

Poets.—Arnold, Barbour, Barclay, Barham, Barnes, Barnfield, Beaumont, Beddoes, Blake,* Breton, Browne, Browning, Bruce, Burns, Butler, Byron, Caedmon, Campbell, Campion, Chapman, Chatterton, Chaucer, Churchill, Clare, Clough, H. Coleridge, S. T. Coleridge, Collins, Cotton, Cowper, Crabbe, Crashaw, Daniel, Davies, Denham, Dibdin, Dobell, Donne,* Douglas, Drayton, Drummond, Dryden, Dunbar, D'Urfey, Fletcher, Ford, Fergusson, Fitzgerald, Gascoigne, Gay, Gower, Gray, Greene, Herbert, Herrick, J.

Heywood, T. Heywood, Hogg, Hood, Keats, Keble,* Langland, Lindsay, Lovelace, Lydgate, Marlowe, Marvell, Massinger, Middleton, Milton, Moore, Morris,* Munday, Norton, Otway, Patmore, Peele, Pope, Prior, Quarles, Randolph, Rogers, Rossetti,* Rowe, Savage, Shakespeare, Shelley, Shirley, Sidney,* Skelton, Smart, Southwell, Spenser, Suckling, Tennyson, Thomson, Vaughan, Waller, Watson, Wither, Wordsworth, Wotton, Wyatt, Young.

Politicians, etc.—Arthur, A. Bacon, N. Bacon, Bateman, Beaton, Bradford, Bradlaugh, Bright, Brooke, Brougham, Bruce, Burke, Burghley, Burnet,* Cade, Campbell, Canning, Earl Canning, Carstares, Chatham, Chichester, Childers, Clarendon, Clive, Cobbett,* Cobden, Cork, Coutances, O. Cromwell, T. Cromwell, Eliot, Ellenborough, Fawcett, Fletcher, Forster, Fox, Foxe,* Frere, Gardiner, Gladstone, Grattan, G. Grenville, W. Grenville, Grey,* Hampden, Harrington, Hastings, Henderson,* Horner, Hubert Walter, Huskisson, Ireton, Kemp, Kirkcaldy, Knox,* S. Langton, W. Langton, Law, Lawrence, Leslie, Lewis, Lilburne, Lucas, Ludlow, Lytton, Macdonald, Macnaghten, Malcolm, Marten, Melville, C. Montagu, Morgan, Mundella, Northumberland, O'Connell, Oldcastle, O'Leary, O'Neill, Paget, Sir Harry Parkes, Sir Henry Parkes, Parnell, Peel, Penn, Pitt, Pownall, Pulteney, Pym, Raffles, Reid,* Robinson, Roe, Rose, Sacheverell, St. Leger, Shaftesbury, Sherbrooke, Sheil,* Sheridan,* T. Smith,* Stratford de Redcliffe, Stirling, Temple,* Thurloe, Tone, Tooke, Tunstall, Vane, Wallace,* Walpole, Walsingham, Warriston, Waynflete, Wentworth, Whitbread, Whitelocke, Wilberforce, Wilkes, Williamson, Windham, Winthrop, Winwood, Wolsey, Wotton, Wykeham, Wyse.

Sailors.—Anson, Blake, Boscawen, Broke, Byng, Cavendish, Cook, Dampier, Deane, Drake, Duncan, Exmouth, Flinders,* Franklin, Frobisher, Gilbert, Hawke, Hawkins, Hood, Leake, Monson, C. Napier, Nelson, Penn, Popham, Raleigh,* Rodney, Smith, St. Vincent, Trollope, Vernon, Willoughby.

Scholars.—Andrewes,* Adamson, Barrow,* Bentley, Bingham, Boece, Bradshaw, Buchanan,* Caius,* Cheke, Colebrooke, Colet, Conington, Creighton, Crichton, Dodwell, Grocyn, Grosseteste, Hales, Hickes, Hort, John of Salisbury, Jones, Jowett, Lane, Lightfoot, Linacre,* Lowth, Montague, Morton, Ockley, Palmer, Pattison, Pearson,* Pococke, Porson, Salesbury, Savile, T. Smith, W. R. Smith, Spelman, Thomas, Ussher, Whiston, Wordsworth.

Soldiers.—Abercromby, Amherst, Cadogan, Campbell, Dundee, Edwardes, Gordon, Graham, Hamley, Hardinge, Havelock, Hawkwood, Jones, Knollys, Lake, Lambert, H. Lawrence, S. Lawrence, Leven, Mackay, Marlborough, Monck, Moore, Morgan, Munro, Napier of Magdala, C. J. Napier, Neill, Nicholson, Nott, Ochterlony, Oglethorpe, Outram, Picton, Pollock, Raleigh,* Reid, H. D. Ross, R. Ross, Sabine,* Sale, Sidney,* Smith, Tarleton, F. Vere, H. Vere, Wallace,* Waller, Williams, Wilson, Wolfe.

Travellers.—Baker, Barrow, Bowring, Bruce, Burton, Chesney, Clapperton, Grey,* Lander, Livingstone, Mitchell, Park, Speke.

The women fall into the following groups :—

Actresses.—Abington, Anne Barry, Elizabeth Barry, Becher, Bracegirdle, Cibber, Clive, Faucit, Jordan, Keeley, Kelly, Kemble, Neilson, Oldfield, Siddons, Woffington, Yates.

Philanthropists.—Carpenter, Fry.

Poets.—Baillie, Browning, Hemans, Landon, Nairne, Rossetti.

Religious.—Ward.

Traveller.—Kingsley.

Women of Letters.—D'Arblay, Austen, Barbauld, Behn, C. Brontë, E. Brontë, Cavendish, Centlivre, Cowley, Cross, Eastlake, Edgeworth, Edwards, Ferrier, Gaskell, Godwin, Inchbald, Jameson, Linton, Martineau, Mitford, Montagu, More, Morgan, Oliphant, Opie, Radcliffe.

Woman of Science.—Somerville.

APPENDIX B.

ORIGINS OF BRITISH PERSONS OF ABILITY.

THE significance of the place-names in the following list varies with their position. When the place-name occurs between that of the grandfather and grandmother it refers to the father (or the mother), our knowledge not going back so far as the grandparents. When the place-name comes in the centre of the page our knowledge is still more imperfect, only comprehending the fact that the eminent person's family belonged to the district in question. A query mark (?) means that the statement is fairly probable, and has been accepted in the body of the book, but is not absolutely certain. The place-names in square brackets indicate origins that are either doubtful or further back than the grandparents; no account of such origins has been taken in the summaries given in the body of the book.

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Abbot			Surrey	
Abercromby	Clackmannan			
Abington			England	
Adam			Scotland	
Adams	Cornwall			Cornwall
Adamson			Perth	
Addison	Westmore-land			
Adrian IV.			England [? Herts]	
Ainsworth	Lancashire			Yorks
Airy	Lincs[West-moreland and Yorks]			Suffolk
Alcuin			Yorks	
Alesius			Midlothian	
Alexander of Hales			Gloucester	
Alexander (W.)	Clackmannan			
Allen	Lancashire			Yorkshire
Amherst	Kent			
Andrewes	Suffolk			
Anson	Staffs			Derbyshire
Arblay, D'	Shropshire		France	
Arkwright			Lancashire	
Armstrong	Cumberland			Northum-berland (?)
Arne			England	
Arnold(M.)	Hants and Suffolk [Ireland]			Cornwall
Arnold (T.)	Suffolk and Hants			Ireland [Huguenot]
Arthur			Devon [? Cornwall]	
Ascham	Yorks			Yorks
Atterbury			England	
Austen	Kent			Warwick
Austin	Suffolk			
Babbage			Devon	
Bacon (A.)	Suffolk	Suffolk		Essex
Bacon (F.)	Suffolk	Suffolk		Essex
Bacon (N.)	Suffolk			Suffolk
Bacon (R.)			Somerset	
Bagehot	Somerset			Somerset
Baillie				Ayr and Lanark
Baily			England	
Baker	Gloucester			Middlesex

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Balfe			Ireland	
Balfour		Haddington		England
Bancroft		Lancashire		
Banim		Kilkenny		
Banks (J.)		Lincs		
Banks (T.)			England	
Bannister		Gloucester (?)		
Barbauld	Yorks			
Barbour			Aberdeen	
Barclay (A.)			Scotland	
Barclay (J.)		Scotland		France
Barclay (R.)		Elgin		
Barham		Kent		
Barnes		Dorset		Dorset
Barnfield		Shropshire		
Barrow (I.)		Suffolk		Kent
Barrow (J.)		Lancashire		Lancashire
Barry (A.)			Somerset	
Barry (C.)			England	
Barry (E.)			England (?)	
Barry (J.)			Cork	
Baskerville			Worcester	
Bateman			Norfolk	
Bates		Leicester		
Baxter		Shropshire		Shropshire
Beardsley		Scotland		England
Beaton		Fife		
Beaumont		Leicester		
Becher		Ireland		
Beckford	Glo'ster			
Beddoes		Shropshire		England and Ireland
Bede			Durham	
Bedell		Essex		Essex
Behn			Kent	
Bell (A.)		Fife		Holland
Bell (C.)		Lanark		
Bennett	Kent			Cambs
Benson				
Bentham (G.)		Hants		
Bentham (J.)				Hants
Bentley		Yorks		
Berkeley		England		Ireland (?)
Bessemer			England [Huguenot]	
Bethell		Wilts		
Betterton			England	
Bewick		Northumberland		Cumberland

	Paternal grandfather.	Paternal grandmother.	Maternal grandfather.	Maternal grandmother.
Bingham			Yorks	
Birch			England	
Bishop		Shropshire		
Black		Antrim [Scotland]		Aberdeen
Blackmore		Devon		Glamorgan [and Devon & Glo'ster]
Blackstone		Wilts		Wilts
Blake (R.)		Somerset		
Blake (W.)	Dublin			
Blow			Notts (?)	
Boece			Forfar	
Boniface			Devon	
Bonington		Notts		Notts
Bonner			England	
Booth		Lancashire		
Borrow		Cornwall		Norfolk [Huguenot]
Boscawen		Cornwall		
Boswell		Ayr		
Bowen		Mayo		Ireland and Austria
Boyle (A. Earl of Cork)		Hereford		Kent
Boyle (Robert)	Hereford	Kent		
Bracegirdle		Northants		
Bradford		Yorks		
Bradlaugh		Suffolk		
Bradley		Durham		Wilts
Bradshaw (H.)		Ireland [Cheshire and Derby]		Antrim
Bradshaw (W.)		Lancashire		
Bradwardine		Hereford (?)		
Broke		Suffolk		
Brooke			England [? Norfolk]	
Breton		Essex		
Brewster			Scotland	
Bright	Warwick [Wilts]			
Brontë (C.)		Down		Cornwall
Brontë (E.)		Down		Cornwall
Brougham		Cumberland	Fife	Ayr
Brown	Berwick	Midlothian		Kent
Browne (H.)		Norfolk		

	Paternal grand-father.		Paternal grand-mother.		Maternal grand-father.		Maternal grand-mother.
Browne (R.)		Lincs				Herts	
Browne (T.)		Cheshire				Sussex	
Browne(W.)		Devon					
Browning (E.)				Northum-berland			
Browning (R.)	Dorset				Germany		Scotland
Bruce (H.)		Glamorgan [and Scot-land]					
Bruce (J.)		Stirling				Stirling	
Bruce (M.)				Kinross			
Buchanan		Stirling				Haddington	
Buckle						Yorks	
Bull				Somerset			
Bunyan		Bedford				Bedford	
Burbage		Herts					
Burges				Somerset			
Burke		Dublin				Ireland	
Burne-Jones		Wales				England	
Burnet		Aberdeen			Dumfries		Ayr
Burns		Kincardine				Ayr	
Burton (Richard)	West-moreland		Ireland [and French Huguenot]		Herts		Scotland
Burton (Robert)		Leicester					
Butler (J.)				Berks			
Butler (S.)				Worcester			
Butterfield				England			
Byng		Kent					
Byrd				Lincoln (?)			
Byron			Cornwall			Aberdeen	
Cade				Ireland (?)			
Cadogan		Ireland [Somerset]					
Cædmon				Yorks			
Cairns		Down [Scot-land]					
Caius				Norfolk			
Calamy	France		Suffolk				
Camden		Staffs			Lancs		Cumber-land
Campbell (C.)		Lanark				Argyle	
Campbell (G.)		Fife				Fife	
Campbell (J.)				Scotland			

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Campbell (T.)	Argyle		Argyle	
Campion (E.)		Essex		
Campion (T.)	Essex		Essex	
Candlish	Ayr		Ayr	
Canning (C.)	Londonderry [Wilts]			
Canning (G.)	Wilts and Londonderry			
Canning (S.)	Wilts and Londonderry			
Cantelupe	Bucks		France	
Canton		Gloucester		
Carey		Northants		
Carleton	Tyrone [Londonderry]		Tyrone	
Carlile	Devon			
Carlyle	Dumfriess			
Carpenter (M.)	Worcester		Worcester	
Carpenter (W.)	Worcester		Worcester	
Carrington	Middlesex			
Carstares	Lanark		Ayr	
Cartwright		Herts		
Case	Kent			
Cattermole		Norfolk		
Cavendish (H.)		England		
Cavendish (M.)	Essex			
Cavendish (T.)		Suffolk		
Caxton		Kent		
Cayley	Yorks [Norfolk]			
Cecil	Northants		Lincoln	
Centlivre	Lincoln		Norfolk	
Challoner		Sussex		
Chalmers	Fife			
Chantrey		Yorks		
Chapman		Herts		
Chatterton	Gloucester		Gloucester	
Chaucer	Suffolk, [? Essex]			
Cheke	Hants		Cambs	
Cheselden		Rutland		

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Chesney	Antrim [Scotland]			
Chichele	Northants (?)			
Chichester	Devon			Devon
Childers			England [partly Jewish both sides]	
Chillingworth	Oxford			
Church		Yorks	Germany	England
Churchill (C.)	England			Scotland (?)
Churchill (J.)	Dorset			Devon
Cibber (C.)	Denmark			Rutland
Cibber (S.)			England	
Clapperton	Dumfriess			
Clare	Northants			
Clarke	Norfolk			
Clifford			Devon	
Clive (K.)	Kilkenny			England
Clive (R.)	Shropshire			Lancs
Clough	Denbigh			Yorks
Cobbett			Surrey	
Cobden			Sussex	
Cockburn	Berwick			France
Cockerell	Somerset			
Coke	Norfolk			
Colby	Wales			
Colebrooke	England			
Colenso	Cornwall			
Coleridge (H.)	Devon			Gloucester
Coleridge (S.)	Devon			
Colet	Bucks			Norfolk
Collier				Cambs
Collins (W.)			Sussex	
Collins (W. Wicklow W.)				Scotland
Colman			England	
Columba	Ireland (Connaught)			Ireland (Leinster)
Columban			Ireland (Leinster)	
Congreve	Staffs			
Conington	Lincs			
Constable	Suffolk [Yorks]			Suffolk
Cook	Northumber-land (?)			

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Cooke (G.)	England (?)			Scotland (?)
Cooke (H.)	Down [England]			[Scotland]
Cooper (First Lord Shaftesbury)	Hants			Dorset
Cooper (Third Lord)			England	
Cooper (Astley)	Norfolk			
Cooper (S.)			England	
Copley (J.S.)	Yorks and Limerick			Lancs and Clare
Copley (Lord Lyndhurst)	Limerick	Clare		England (?)
Cosin	Norfolk			Norfolk
Cotes				Leicester
Cotman			Norfolk	
Cotton (A.)	Cheshire			Essex
Cotton (C.)	Staffs			Derby
Cotton (R.)	[Cheshire]			Leicester
Contances			Cornwall	
Coverdale			Yorks	
Cowley (A.)			England	
Cowley (H.)	Devon			
Cowper	Herts			Norfolk
Cox	Warwick			Warwick
Cozens	Russia	Kent		
Crabbe	Suffolk			Suffolk
Cranmer	Lincs and Notts			Lincs
Crawshaw	Yorks			
Creighton	Cumberland			Cumberland
Crichton	Dumfriess			Fife
Croker	Devon			Galway
Crome			Norfolk	
Cromwell (O.)	Glamorgan and Hunts			Cambs (?)
Cromwell (T.)	Notts			
Cross	Flint			Derby (?)
Cruikshank	Midlothian			
Cudworth			England	
Cullen	Lanark			
Curran	Cumberland and Cork			
Cuthbert			Scotland (?Lothians)	
Dalrymple	Ayr			
Dalton	Cumberland			Cumberland

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Dampier			Somerset [? Huguenot]	
Danby		Wexford		
Daniel			Somerset	
Darwin (C.)	Lincoln		Staffs	Cheshire
Darwin (E.)		Lincoln [Norfolk and Notts]		
Davenant			Oxford	
Davies		Wilts		Wilts
Davy	Cornwall [Norfolk]			
Dawson		Notts		
Day			England	
Deane		Gloucester		Bucks (?)
Dee		Radnor		England (?)
Defoe		Flanders (?) and Northants		
Dekker			England	
De Morgan			England	
Dempster		Aberdeen		Scotland
Denham		England		Ireland
Denman	Notts			Scotland
De Quincey		Lancashire		
D'Ewes	Holland	Cambs	Dorset	Kent
Dibden		Hants		
Dickens		Hants		
Digby		Rutland		Bucks
Dobell		Kent		
Dobson		Herts		
Doddridge		Devon		Germany
Dodgson			England	
Dodwell				Yorks (?)
Dolben		Denbigh		Carnarvon[1]
Donne		England [and Wales ?]		
Douglas			Scotland	
Dowland			England	
Doyle		Dublin		[England ?]
Drake			Devon	
Drayton			Warwick	
Drummond (T.)				Midlothian
Drummond (W.)		Midlothian		Midlothian
Dryden		Cumberland and Northants		Northants
Dudley		Sussex		
Duff		Perth		
Dugdale		Lancashire		

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Du Maurier	France		England	
Dunbar		Hadding ton (?)		
Duncan	Perth			
Dundas			Ross	
Dunning	Devon		Devon	
Duns		Northum-berland [or Bewick		
Dunstan		Somerset(?)		
D'Urfey	France		Hunts	
Dyce	Aberdeen		Aberdeen	
Eastlake (C.)	Devon		Devon	
Eastlake (Lady)	Lancashire		Norfolk	
Edgeworth	Longford [England]		Germany	Oxford
Edmund		Berks		
Edwardes	Shropshire [Wales]			
Edwards	Suffolk		Ireland and Norfolk	
Eliot	Cornwall			
Elliston	Suffolk			
Elyot	Somerset			
Emlyn	Rutland (?)		Kent	
Erskine	Berwick		Orkney	
Etheridge	Oxford			
Etty	Yorks		Yorks	
Faber	[Huguenot]		Yorks	
Falconer	Elgin			
Fanshawe	Derby		Kent	
Faraday		Yorks		
Farquhar		Ireland		
Faucit	England		France	
Fawcett	Westmore-land		Wilts (?)	
Ferguson		Banff		
Fergusson	Aberdeen		Aberdeen	
Ferrar			Cheshire	
Ferrier	Renfrew		Forfar	
Fielding	Warwick	Somerset	Somerset	
Fitzgerald	Ireland (?)		Ireland	
Fitzgibbon	Limerick			
Flamstead		Derby		
Flaxman	Norfolk			
Fletcher (A.)	Haddington			
Fletcher (J.)	Norfolk			

	Paternal grand-father.		Paternal grand-mother.		Maternal grand-father.		Maternal grand-mother.
Flinders		Lincoln					
Flood				Ireland			
Flower		Herts				Warwick	
Foote		Cornwall					
Forbes (C.)		Isle of Man				Isle of Man	
Forbes (J.)		Aberdeen				Perth	
Ford		Devon				Devon	
Forster						Norfolk	
Fortescue		Devon (?)					
Fox (C. J.)	Wilts		Lincoln				
Fox (G.)		Leicester					
Foxe (J.)				Lincoln			
Foxe (R.)				Lincoln			
Francis		Ireland					
Frankland				Lancashire			
Franklin		Lincoln [Norfolk]					
Franks					Worcester		Norfolk
Freeman		Warwick				Warwick	
Frere	Norfolk [Suffolk]		Surrey				
Frobisher		Yorks [Wales]					
Froude		Devon				Cumberland	
Fry		Norfolk					
Fuller		[? Berks]			Essex [and Suffolk]		Surrey
Gainsboro'				Suffolk			
Galt				Ayr			
Gardiner				Suffolk			
Garnett				Derby			
Garrick		France				Ireland	
Gascoigne		Beds				Yorks	
Gaskell		Berwick				Lancashire	
Gauntlett		Wilts				Glamorgan	
Gay		Devon					
Geoffrey				Monmouth			
Gibbon		Kent and Shropshire [Suffolk]					
Gibbons				Cambridge (?)			
Gibson		Carnarvon				Wales	
Gifford		Devon				Devon	
Gilbert (H.)				Devon			
Gilbert (J.)		Derby					
Gilbert (W.)		Suffolk					
Gillray		Lanark					
Giraldus		England				Wales	
Girtin				England			
Gladstone	Midlothian		Midlothian			Ross	

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Glisson	Dorset			
Godwin (M.)	Ireland	England (?)		Ireland
Godwin (W.)			Cambs (?)	
Goldsmith	Ireland [England]			Ireland
Gordon	Scotland	England		England
Gower	Suffolk [or Kent]			
Graham (G.)	Cumberland		Yorks	
Graham (J.)	Kincardine			
Grattan	Dublin			
Gray				Bucks
Green	Oxford			Oxford
Greene			Norfolk	
Grenville (G.)	Bucks			
Grenville (W.)	Bucks			Norfolk (?)
Gresham	Norfolk			Northampton
Grew	Warwick			Notts
Grey			England [Leicester]	
Grocyn			Wilts	
Grosseteste			Suffolk	
Grote	Germany [Flemish Huguenot]			Lincoln [French Huguenot]
Hale			Gloucester	
Hales (G.)	Somerset			
Hales (S.)	Kent			Herts
Hall	Leicester			
Hallam	Lincs			
Halley	Derby			
Halliwell-Phillips	Lancashire			
Hamilton (A.)			Ireland and Scotland	
Hamilton (W.)	Lanark			Lanark
Hamilton (W. R.)	Ireland [Scotland]	Wigton		Ireland (?)
Hamilton (T.)				Berwick
Hamley	Cornwall			Shetland
Hampden	Bucks			Hunts
Hardinge				Kent
Harrington	Lincs			Northants
Hartley				Yorks (?)

	Paternal grandfather.	Paternal grandmother.	Maternal grandfather.	Maternal grandmother.
Harvey	Kent			Kent
Hastings	Worcester			
Havelock	Durham [Lincoln]			Durham
Hawke	Cornwall		Yorks	Yorks
Hawkins	Cornwall	Devon		Cornwall
Hawkwood	Essex			
Haydon	Devon			
Hazlitt	Antrim			Cambs
Hemans	Sligo		Italy	Lancashire
Henderson			Fife	
Herbert (A.)	Montgomery			England (?)
Herbert (E.)	Montgomery [Monmouth]			Shropshire
Herbert (G.)	Montgomery [Monmouth]			Shropshire
Herrick	Leicester			
Herschel	Germany			England
Heylin	Montgomery			Kent
Heywood (J.)			England	
Heywood (T.)			Lincoln	
Hickes	Yorks			Yorks
Hill	Worcester			
Hinton	Oxford and Bucks [and Essex]			
Hoadley			England	
Hobbes	Wilts (?)			Wilts
Hodgson	Cheshire			Lancashire
Hogarth	Westmoreland			
Hogg			Selkirk	
Holcroft			England	
Holl	Germany			England
Hood (S.)	Somerset			Dorset
Hood (T.)	Scotland			
Hook (T.)	Norfolk			
Hook (W.)	Norfolk			Aberdeen
Hooke			England	
Hooker	Devon			
Horner	Midlothian			
Horrocks	Lancashire			
Hort	Ireland [and Somerset and Hants]			England [? Suffolk]
Howard			England	
Howell	Wales			Wales
Hubert	Suffolk [or Norfolk]			

	Paternal grand-father.		Paternal grand-mother.		Maternal grand-father.		Maternal grand-mother.
Hughes						Yorks	
Hume		Berwick					
Hunt						England	
Hunter (J.)		Ayr				Lanark	
Hunter (R.)		Roxburgh				Roxburgh	
Huskisson		Staffs				Staffs	
Hutcheson	Ayr		Ireland			Armagh (?)	
Hutton (J.)		Midlothian					
Hutton (R.)		Ireland (?)				Notts	
Huxley		Warwick [? Staffs]				Wilts	
Hyde		Cheshire				Wilts	
Inchbald		Suffolk					
Ireton		Derby					
Irving		Dumfriess [Fr. Huguenot]				Dumfriess	
Jameson		Dublin					
Jeffrey		Midlothian				Lanark	
Jenner		Glo'ster (?)				Gloucester	
Jerrold				England			
Jervis		Staffs				Staffs and Cheshire	
Jevons		Staffs			Lancashire		Lancashire
Jewel		Devon					
John of Salisbury				Wilts			
Johnson		Staffs				Worcester	
Johnston		Dumfriess				Ayr	
Jones (I.)		Denbigh (?)					
Jones (J. T.)		Suffolk and Norfolk					
Jones (W.)		Anglesey				England	
Jones (W. B.)		Cardigan				Essex	
Jonson		Dumfriess(?)				England (?)	
Jordan						Ireland	
Joule		Derby				Lancashire	
Jowett	[Yorks]		Yorks			Lancashire	
Juxon				England			
Kean		Ireland					
Keats		Devon [or Cornwall]					
Keble		Gloucester [Suffolk]				Scotland [& Hants ?]	
Keeley				Suffolk			
Keene		Suffolk				Suffolk	
Kelly	Dublin		Westmeath			England	
Kemble (F.)	Hereford		Ireland		France		Switzerland

	Paternal grandfather.	Paternal grandmother.	Maternal grandfather.	Maternal grandmother.
Kemble (J.)	Hereford	Ireland	France	Switzerland
Kemble (J. P.)	Hereford [? Wilts]			Ireland
Kemp	Kent			
Ken	[Somerset ?]			Middlesex
Kennett	Kent			Kent
Kenyon	Flint			Cheshire
Killigrew	Cornwall			Norfolk
King (T.)			England	
King (W.)	Aberdeen			
Kingsley (C.)	Devon			
Kingsley (M.)	Devon			
Kirkcaldy	Fife			Fife
Knight			England	
Knollys			Cheshire	
Knowles	Dublin			Cork
Knox			Haddington	
Lake				Middlesex
Lamb	Lincoln			Herts
Lambert	Yorks			
Lancaster			England	
Lander			Cornwall	
Landon	Hereford			Wales
Landor	Staffs			Warwick
Landseer	Lincoln			
Lane	Hereford			Suffolk (?)
Langland			Shropshire (?)	
Langton (S.)			England	
Langton (W.)			Leicester	
Lardner	Hants			
Latimer	Leicester			
Law (E., Baron Ellenboro')	Westmoreland			Cumberland
Law (E., Earl of Ellenboro')	Westmoreland	Cumberland		
Law (J.)	Edinburgh			
Law (W.)	Northampton			
Lawes (H.)	Wilts (?)			
Lawes (J. B.)	Herts			Oxford
Lawrence (H.)	Londonderry			Donegal [Scotland]
Lawrence (J.)	Londonderry			Donegal [Scotland]
Lawrence (S.)	Hereford			

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Lawrence (T.)				Worcester
Layard	[Huguenot]			Kent
Leake	Suffolk			
Lee			England [Herts or Leicester?]	
Leech	Ireland			
Lefroy			England [Huguenot]	
Leighton (F.)	Yorks [Shropshire]			Middlesex
Leighton (R.)	Forfar			
Leland	Lancashire			
Leslie (A.)	Aberdeen			Perth
Leslie (C.)	Aberdeen			
Leslie (J.)	Aberdeen			
L'Estrange	Norfolk			Norfolk
Lever	Lancashire			Ireland [England]
Lewes	Wales			
Lewis (J.F.)	Germany			England (?)
Lewis(G.C.)	Radnor			Hereford
Lewis (W. T.)	Wales			
Liddon	Hants (?)			Surrey
Lightfoot	Yorks			Northumberland
Lilburne	Durham			
Lillo	Holland			England
Linacre			Kent (?)	
Lindsay	Haddington			
Lingard	Lincoln			
Linnell	Bucks [? Northants]			
Linton (E.)	Norfolk	Norfolk		
Linton (W.)	Aberdeen			
Lister	Yorks (?)			
Liston			England (?)	
Littleton	Devon			
Livingstone	Inverness			Lanark
Lloyd	Anglesey			
Locke	Somerset			Somerset
Lockhart	Lanark			Midlothian
Lodge	Shropshire			Northants
Loftus	Yorks			
Lovelace	Kent			
Lover	Dublin			
Lowe				Worcester

	Paternal grandfather.	Paternal grandmother.	Maternal grandfather.	Maternal grandmother.
Lowth	[Lincs and Hunts]			Dorset
Lucas	Clare			
Ludlow	Wilts			Somerset
Lydgate			Suffolk	
Lyell	Forfar			Yorks
Lyly			Kent	
Lytton (Earl of)	Norfolk	Herts		Ireland
Lytton (Lord)	Norfolk			Herts
Macaulay	Argyll			Gloucester
Macdonald	Sutherland			
Macfarren				Lanark
Mackay	Sutherland			Ross
Mackintosh	Inverness			
Mackenzie	Midlothian			Nairn
Macklin	Down (?)			Westmeath (?)
Maclaurin	Argyll			
Maclise	Elgin			Cork [Scotland]
Macnaghten	Antrim			Tyrone
Macready	Dublin			Lincoln and Derby
Maginn	Cork			
Maine	Roxburgh			Berks
Malcolm	Fife and Dumfriess			Dumfriess
Malone	Westmeath			Essex
Malthus	Surrey			
Manning	Herts			
Map			Hereford and Wales	
Marlowe	Kent			Kent (?)
Marryatt	England [Huguenot]			Germany
Marsh			England	
Marshall	Hunts			
Marston	Shropshire			Italy
Marten	Berks			
Martineau (H.)	Norfolk [Huguenot]			Northumberland
Martineau (J.)	Norfolk [Huguenot]			Northumberland
Marvell				Yorks
Massinger	Wilts			
Mathews (C.)	Glamorgan			England (?)
Mathews (C. J.)	England [Glamorgan]			

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Maurice	Wales		Norfolk	
Maxwell	Midlothian		Northum-berland	
Mayow		Cornwall		
Mead	Bucks			
Melville	Forfar		Forfar	
Merivale	Devon [North-ants, Notts & France]	Germany	Norfolk	Devon
Middleton (C.)		Yorks [?]		
Middleton (T.)		England		
Mill (J.)	Forfar		Forfar	
Mill (J. S.)	Forfar	Forfar	England	
Millais	Jersey [France]		England	
Miller	Cromarty(?)		Ross	
Milman	Devon	Devon	Gloucester	
Milner (I.)	Yorks			
Milner (J.)	Lancashire			
Milton	Oxford			
Mitchell	Stirling			
Mitford	Northum-berland			Hants
Moffat			Haddington	
Monck	Devon		Devon	
Monson	Lincs		Lincs	
Montagu (C.)-	Northants		Lincs	
Montagu (E.)	Yorks		Cambs and Kent	
Montagu (R.)		England		
Moore (J.)	Stirling		Lanark	
Moore (T.)	Kerry		Wexford	
More (H.)	Norfolk and Suffolk		Gloucester	
More (T.)	Herts (?)		[Beds ?]	
Morgan (G. O.)	Wales		Sweden (?) [Huguenot & England]	
Morgan (H.)	Glamorgan			
Morgan (S.)	Mayo		Shropshire	
Morland (G.)	Berks (?)			
Morland(S.)		England		
Morley			England	Ireland

	Paternal grandfather	Paternal grandmother	Maternal grandfather	Maternal grandmother
Morris	Worcester [from Wales Junior]	Notts		Worcester
Morrow	Down			
Mulready	Clare			
Mun			England	
Munday			Leeds ?	
Munteella	Italy			Wales
Munton			England	
Munro	Lanark			
Munrowson	Ross			Ross
Murdock	Ayr			
Murray	Edinburgh [Perth]			
Myers	Fife			Cumberland
Myrne	Perth			Perth
Nagel C.	Ireland			Lanark ?
Nagel C.	Ireland	Dublin		France
Nagel —.	Midlothian			
Nagel Sir	Antrim			Antrim
Nagel T. C.	Scotland ?			
Nagel W.	Scotland	Dublin		[France]
Nash	Ebenezer			[Suffolk]
Nasmyth	Midlothian			Midlothian
Nasmyth P.	Midlothian			Midlothian
Naylor			Wales	
Neale E. T.	Berks			Warwick
Neale J. W.	Staffs			Essex
Needham	Derby			Oxford
Neil	Ayr			
Neilson J.	Lanark			
Neilson [illegible] A.			England	
Nelson	Norfolk			Suffolk and Norfolk
Newcomen	Down [Lincs]			
Newman	Canada [Holland]			[Huguenot]
Newman (F.)	Canada [Holland]			[Huguenot]
Newton	Lincoln [English family in Haddington]			Rutland

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Nicholson	Down		Antrim	
Northcote	Devon			
Norton			Bucks	
Nott	Hereford		Norfolk	
Nowell	Lancashire		Lancashire	
Noye	Cornwall			
Ochterlony	Forfar			
Ockham		Surrey (?)		
Ockley	Norfolk			
O'Connell	Kerry		Cork	
Oglethorpe	Yorks		Tipperary	
Oldcastle	Hereford [and Wales]			
Oldfield		England		
Oldys	Dorset and Gloucester			
O'Leary		Cork		
Oliphant (L.)	Perth		[Highlands]	
Oliphant (M.)	Midlothian		Fife	
O'Neill	Tyrone			
Opie (A.)	Suffolk		Norfolk	
Opie (J.)	Cornwall		Cornwall	
Ordericus	France		England	
Otway	[Yorks ?]	England		
Oughtred	Northumberland			
Outram	Derby		Aberdeen	
Owen (J.)	Wales			
Owen (Sir R.)	Bucks		Lancashire [Huguenot]	
Owen (R.)	Montgomery		Wales	
Paget (J.)	Norfolk		Cheshire	
Paget (W.)	Staffs			
Paine	Norfolk		Norfolk	
Paley	Yorks		Yorks	
Palmer (E. H.)	Cambs		Norfolk and Scotland [Highlands]	
Palmer (J.)		England		
Palmer (R.)	Leicester and Essex		Yorks	
Palmer (S.)	Devon [or Wilts]			
Paris		England		
Park	Selkirk			
Parker (M.)	Norfolk			
Parker (T.)	Staffs		Cheshire	

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Parkes (E.)	Warwick			
Parkes (H. S.)	Staffs		Shropshire	
Parkes (H.)	Warwick			
Parnell	Queen's County		[United States]	
Parr	Leicester		France	
Parsons (R.)	Somerset			
Parsons (W.)			Kent	
Pater	Bucks and Norfolk [Flanders]			
Paterson	Dumfriess			
Patmore	England [& Germany]		Scotland	
Patrick		Dumbarton		
Pattison	Yorks		Yorks	
Payne	France		Lincoln (?)	
Pearson (J).	Westmoreland		Merioneth [or Carnarvon]	
Pearson (J. L.)	Durham			
Pecock		Wales		
Peel	Lancashire [Yorks]			
Peele	Devon (?)			
Peirce		England		
Pellew	Cornwall			
Penn (Sir W.)	Gloucester [or Wilts]		Yorks	
Penn (W.)	Glo'ster	Yorks	Holland	
Penry	Brecknock			
Pepys	Cambs			
Perkins	Warwick			
Perry	Aberdeen			
Peters	Cornwall		Cornwall	
Petty	Hants			
Phelps	Somerset			
Phillip	Aberdeen			
Picton	Pembroke			
Pitman	Wilts			
Pitt (Earl of Chatham)	Dorset	Elgin	Waterford	
Pitt (W.)	Dorset	Waterford	Bucks	
Pococke	Hants			
Pollock	Berwick		England	
Pope	Hants (?)		Yorks	
Popham	[Devon ?]	England		

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Porson	Norfolk		Norfolk	
Pott			England	
Powell	Radnor		Montgomery	
Pownall			Cheshire [&Lincoln]	
Pratt	Oxford [Devon]		Carnarvon	
Preston			Northants	
Prestwich	Shropshire [Lancs. & Ireland]		Shropshire	
Price	Glamorgan		Yorks	
Priestley	Yorks			
Prior	Dorset		Somerset	
Prynne	Glo'ster and Somerset [Shropshire?]			
Pugin	France		England	
Pulteney	Leicester			
Purcell	Shropshire (?)			
Pusey	Norfolk [Walloon Huguenot]			
Pym	Somerset		Kent	
Quarles	Essex			
Quin	Dublin			
Radcliffe	Rutland [Holland]		Nottingham [or Essex]	
Raeburn			Dumfries	
Raffles	Yorks			
Raleigh	Devon [and Cornwall]		Devon	
Randolph	Sussex		Northants	
Ray	Essex			
Reade	Oxford			
Reid (T.)	Aberdeen		Banff	
Reid (W.)	Aberdeen			
Reynolds	Devon [and Holland]		Devon	
Richardson	Surrey			
Ridley	Northumberland			
Ritson	Westmoreland			
Robertson	Fife		Ayr	
Robinson	Westmeath	Kilkenny		

	Paternal grandfather.	Paternal grandmother.	Maternal grandfather.	Maternal grandmother.
Rodney	Somerset			
Roe	Essex			Norfolk
Rogers	Wales [& France]			Cheshire
Romney	Westmoreland			Cumberland
Roscoe	Lancashire			
Rose	Nairn			
Ross (H. D.)	Wigton			Haddington
Ross (R.)	Down			Cork
Rossetti (C.)	Italy		Italy	England
Rossetti (D.G.)	Italy		Italy	England
Rowe	Devon			Beds
Rowlandson		England		
Ruskin	Midlothian			
Russell	Down			Antrim
Sabine	Kent			Shropshire
Sacheverell	Notts & Derby			Leicester
Sadler	Warwick & Derby			[Huguenot]
St. John	Beds			Beds
St. Leger	Kent			Kent
Sale				Hunts
Salesbury				Denbigh
Sancroft	Suffolk			Suffolk
Sandby	Notts			
Savage		England		
Savile	Yorks			
Scarlett		England		
Scott (D.)	Lanark			
Scott (G. G.)	Lincoln			
Scott (J.)	Northumberland			Northumberland
Scott (Walter)	Midlothian			
Scott (William)	Northumberland			Northumberland
Scotus		Ireland		
Sedgwick		Yorks		
Seeley	Bucks			
Selden	Sussex			Kent
Shakespeare	Warwick			Warwick
Sharp	Yorks			
Sheil	Kilkenny			Tipperary
Sheldon	Staffs			
Shelley	Sussex			Surrey
Sheridan	Cavan			England
Shirley		England		
Siddons	Hereford [? Wilts]			Ireland

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Sidgwick	Yorks			
Sidney			Sussex	
Simpson	Linlithgow		[Huguenot]	
Sinclair	Caithness			
Skelton		Norfolk (?)		
Smart	Durham		Radnor	
Smith (A.)	Aberdeen		Fife	
Smith (H. G.)	Cambs		Northamp-ton	
Smith (H. J. S.)	England (?)		Cork	
Smith (R. A)	Ayr		Lanark	
Smith (S.)	England		France	
Smith (T.)	Essex		Lancashire	
Smith (W.)	Oxford		Gloucester	
Smith (W. R.)		Aberdeen		
Smith (W. S.)		England		
Smollett	Dumbar-ton	Dumbarton		
Somers	Worcester		Worcester	
Somerville	Surrey [Yorks]		Scotland	
South			Kent	
Southey	Somerset		Hereford	
Southwell	Norfolk		Sussex	
Speke	Somerset		Norfolk	
Spelman	Norfolk		Surrey	
Spencer	Lancashire			
Sprat	Dorset		Dorset	
Stanhope	Derby		Derby	
Stanley	Cheshire			
Steele	Dublin		Dublin [or Wexford]	
Steevens		England		
Stephen	Aberdeen		Dorset (?)	
Stephenson	Scotland (?) and North-umber-land		North-umber-land	
Sterne	Notts [Suffolk] & Yorks		Ireland	
Stevens	Dorset		Dorset	
Stevenson	Lanark	Midlothian	Mid-lothian	Ayr
Stewart	Bute		Ayr	
Stothard	Yorks		Shropshire	

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Stow			England	
Street		Worcester		
Stubbs			Lancs. (?)	
Sturgeon		Dumfriess		Lancs.
Suckling		Norfolk		
Sullivan		Ireland		Italy
Swift	Yorks	Hereford		Leicester
Sydenham		Dorset [Somerset]		
Symonds	Shrop-shire	Oxford [Wales]		[Lancashire & Yorks]
Tait		Aberdeen & Midlothian		
Tallis			England [? Essex]	
Tarleton		Lancs.		Lancs.
Taylor (H.)		Northum-berland		Durham
Taylor (J.)		Gloucester & Cambs		
Taylor (W.)		Norfolk		Norfolk
Telford			Dumfriess	
Temple		Warwick & Derby		Lancs. [?) & Surrey
Tennyson		Lincoln		Lincoln
Thackeray	Yorks	Wilts		
Thirlwall		Northum-berland		Radnor
Thomas			Radnor (?)	
Thompson			Cork	
Thomson		Roxburgh		Berwick
Thurloe			Essex (?)	
Thurlow		Norfolk		Suffolk
Tillotson		Cheshire		Yorks
Toland			London-derry	
Tone	Kildare			
Tooke			England	
Trelawney		Cornwall		Cornwall
Trevitheck		Cornwall		Cornwall
Trollope (A.)	Lincoln	Holland		
Trollope (H.)		Lincoln		
Tunstall		Lancs.		Yorks (?)
Turner		Devon		Notts (?)
Tye			England	
Tyndale		Gloucester (?)		
Tyndall	Carlow [Glo'ster]			

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Udall			Hants	
Urquhart	Cromarty			
Ussher			Ireland [England]	
Vanbrugh	Flanders [Huguenot]			England
Vane	Kent	Kent		Essex
Varley	Lincoln [or Notts]			Yorks
Vaughan	Brecknock			
Vere (F.)	Essex			Essex
Vere (H.)	Essex			Essex
Vernon	Cheshire & Staffs			
Wakley	Devon			
Walker			England	
Wallace	Renfrew and Ayr [? Shropshire]			Ayr
Waller (E.)	Bucks			
Waller (W.)	Kent			
Wallis	Northants			Kent
Walpole (H.)	Norfolk	Suffolk		Kent
Walpole (R.)	Norfolk			Suffolk
Walsh			Kildare	
Walsingham	Kent [Norfolk]			Herts
Walter			England	
Walton	Staffs			
Warburton	Cheshire			
Ward (M.)	Yorks			Yorks
Ward (S.)	Herts			
Ward (W.G.)			England	
Warham	Hants			
Warton				Surrey
Watson (R.)	Westmoreland			
Watson (T.)			England	
Watt	Aberdeen & Renfrew			Lanark
Waynflete	Lincoln [? & Essex]			
Webster	Yorks			Yorks
Wedgwood	Staffs			Shropshire
Wentworth	Armagh			
Wesley (C.)	Devon [& Ireland]	Staffs		Warwick

	Paternal grandfather.	Paternal grandmother.	Maternal grandfather.	Maternal grandmother.
Wesley (J.)	Devon[& Ireland]	Staffs		Warwick
Westmacott			England	
Whately		Surrey [and Oxford ?]		Herts
Wheatstone		Gloucester		
Whewell		Lancashire		
Whiston			England	
Whitbread		Beds		Bucks
White (G.)		Hants		Sussex
White(J.B.)	Waterford [Dublin]			Spain
Whitefield		Gloucester		
Whitehead			Westmoreland	
Whitelocke				Bucks
Whitgift		Lincoln		
Whittington		Glo'ster [?]		
Whitworth		Yorks and Lancashire		
Wilberforce (S.)	Yorks	Oxford		Warwick
Wilberforce (W.)		Yorks		Oxford
Wilde	Ireland [Durham]	Galway		
Wilfrid			England	
Wilkes		Beds		
Wilkie		Midlothian		Fife
Wilkins		Oxford		Cheshire
Wilks		Worcester & Dublin		
Willet			England	
William of Malmesbury		France		Somerset [?]
William of Newburgh			Yorks	
Williams (C. H.)	Monmouth [Worcester]			
Williams (D.)		Denbigh		Denbigh
Williams (Sir R.)		Monmouth		
Williams (R.)		Wales [?]		
Williams (W.)		Anglesey		Denbigh

	Paternal grand. father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mother.
Williamson (J.)			England	
Williamson (W. C.)	Yorks	Yorks	Had-dington	Yorks
Willoughby	Notts		Perth	
Wilson (J.)			Renfrew	
Wilson (R.)			Flint	
Wilson (Sir R.)	Yorks			
Wilson (T.)			Cheshire	
Windham	Norfolk		Essex	
Winthrop	Suffolk		Suffolk	
Winwood	Northants			
Wiseman	Waterford [settled in Spain]		Kilkenny	
Wishart			Forfar	
Wilton	Hants [Lancashire]			
Woffington			Ireland	
Wolcot			Devon	
Wolfe	Ireland [Wales]		Yorks	
Wollaston	Staffs [? & French Huguenot]			
Wolsey			Suffolk	
Woodward			England	
Woolner	Suffolk			
Wordsworth (Charles)	Yorks		Warwick [Montgomery]	Glo'ster
Wordsworth (Christopher)	Yorks		Warwick [Montgomery]	Glo'ster
Wordsworth (W.)	Yorks			
Wotton (H.)	Kent		Kent	
Wotton (N.)	Kent			
Wren	Warwick [Durham]		Wilts	
Wright (J.)	Derby			
Wright (T.)	Yorks			
Wulfstan			Warwick	
Wyatt	Kent (?)		Surrey	
Wycherley	Shropshire			
Wycliffe			Yorks	
Wykeham			Hants	
Wyse	Waterford		Waterford	

	Paternal grand-father.	Paternal grand-mother.	Maternal grand-father.	Maternal grand-mothe
Yates		England (?)		
Yorke	Wilts		Kent	
Young (A.)	Suffolk		Holland	
Young (E.)		England		
Young (T.)	Somerset		Somerset	

APPENDIX C.

OCCUPATION OR SOCIAL POSITION OF FATHERS.

ABBOT	clothworker
Abercromby	upper class
Abington	soldier cobbler
Adam	architect
Adams	farmer
Adamson	baker
Addison	Church
Airy	collector of excise
Alexander	upper class
Allen	upper class
Andrewes	merchant and sea captain
Arblay, D'	musician and author
Arkwright	humble
Arne	upholsterer
Armstrong	corn merchant
Arnold (M.)	schoolmaster
Arnold (T.)	collector of customs
Arthur	official
Ascham	yeoman
Atterbury	Church
Austen	Church
BACON (A.)	upper class
Bacon (F.)	upper class
Bacon (N.)	sheepreeve
Bacon (R.)	upper class
Bagehot	banker
Baillie	minister *
Baily	banker
Baker	merchant
Balfour	upper class
Bancroft	upper class
Banim	farmer trader
Banks (T.)	steward surveyor
Bannister	actor
Barbauld	Church
Barclay (J.)	lawyer
Barclay (R.)	army
Barnes	farmer
Barnfield	upper class
Barrow (I.)	draper
Barrow (J.)	peasant
Barry (A.)	apothecary
Barry (C.)	stationer
Barry (E.)	lawyer
Barry (J.)	builder
Baskerville	humble
Bates	manufacturer
Baxter	yeoman
Beardsley	brewery manager
Beaumont	upper class lawyer
Beckford	upper class commerce
Beddoes	doctor
Bedell	yeoman
Becher	actor
Behn	barber
Bell (A.)	barber
Bell (C.)	Church
Bennett	musician
Benson	manufacturer
Bentham (G.)	naval architect
Bentham (J.)	lawyer
Bentley	yeoman
Bessemer	engineer

* "Minister" is here throughout applied to all religious denominations except the Church of England. "Priest" has reference to the Roman Catholic Church, whether before or since the Reformation.

Bethell	doctor
Betterton	cook
Bewick	farmer
Birch	Church
Bishop	merchant
Black	wine merchant
Blackmore	Church
Blackstone	silk mercer
Blake (R.)	merchant
Blake (W.)	hosier
Bonington	governor of gaol
Bonner	priest (?)
Booth	upper class
Borrow	maltster soldier
Boscawen	upper class
Boswell	upper class lawyer
Bowen	Church
Bowring	woollen trade
Boyce	cabinet maker
Boyle (R.)	upper class
Bradford	yeoman
Bradlaugh	clerk
Bradley	upper class
Bradshaw (H.)	banker
Breton	trade
Brewster	minister
Bright	miller
Brontë (C.)	Church
Brontë (E.)	Church
Burke	civil service
Brown	purser
Browne (R.)	upper class
Browne (T.)	mercer
Browning (R.)	clerk
Bruce (H.)	upper class
Bruce (M.)	weaver
Buchanan	farmer
Buckle	merchant
Bunyan	whitesmith
Burke	lawyer
Burnet	upper class lawyer
Burns	farmer
Burton (Sir Richard)	army
Butler (J.)	draper
Butler (S.)	farmer
Byng	upper class
Byron	upper class
CADOGAN	lawyer
Cairns	army
Calamy	minister
Camden	painter stainer
Campbell (C.)	carpenter
Campbell (G.)	upper class
Campbell (J.)	minister
Campbell (T.)	trade
Campion (E.)	bookseller
Candlish	doctor
Canning (C.)	upper class
Canning (G.)	upper class
Canning (S.)	banker
Cantelupe	upper class
Canton	business
Carey	schoolmaster
Carleton	peasant farmer
Carlile	shoemaker
Carlyle	mason
Carpenter (M.)	minister
Carpenter (W. B.)	minister
Carrington	brewer
Carstares	minister
Case	Church
Cattermole	upper class
Cavendish (H.)	upper class
Cavendish (M.)	upper class
Cavendish (T.)	upper class
Cayley	merchant
Cecil	upper class
Challoner	wine cooper
Chalmers	merchant
Chantrey	carpenter farmer
Chatterton	shoemaker
Chaucer	vintner
Chesney	army
Chichele	yeoman draper
Chichester	upper class
Childers	upper class Church
Church	merchant
Churchill (C.)	Church
Churchill (J.)	upper class
Cibber (C.)	sculptor
Cibber (S.)	upholsterer
Clapperton	doctor
Clare	labourer
Clive (R.)	upper class
Clough	cotton merchant
Cobbett	peasant
Cobden	yeoman
Cockburn	upper class
Cockerell	architect
Coke	upper class
Colby	army
Colebrooke	banker
Colenso	mineral agent
Coleridge (H.)	author
Coleridge (S.)	Church

Colet . . . merchant
Collier . . . Church
Collins (W.) . . hatter
Collins (W. W.) . artist
Colman . . . upper class
Columba . . upper class
Congreve . . army
Conington . . Church
Constable . . miller
Cook . . . agricultural labourer
Cooke (G.) . . army
Cooke (H.) . . farmer
Cooper (First Lord Shaftesbury) . upper class
Cooper (Third Lord Shaftesbury) . upper class
Cooper (A.) . . Church
Copley (Lord Lyndhurst) . . . artist
Cotes . . . Church
Cotman . . . mercer
Cotton (A.) . . upper class
Cotton (C.) . . upper class
Cowley . . . trade
Cowper upper class Church
Cox . . . blacksmith
Cozens . . . artist
Crabbe . . . collector of customs
Crashaw . . Church
Crichton . . upper class
Croker . . . surveyor of customs
Crome . . . journeyman weaver
Cromwell (O.) . upper class
Cromwell (T.) blacksmith innkeeper
Cross . . . carpenter
Cruikshank . . artist
Cudworth . . Church
Cullen . . . lawyer

DALRYMPLE . upper class
Dalton . . . weaver
Dampier . . farmer
Danby . . . farmer
Daniel . . . music master
Darwin (C.) . . doctor
D'Avenant . . vintner and innkeeper
Davy . . . yeoman
Dawson . . . cheesemonger
Day . . . collector of customs
Deane . . . upper class
De Foe butcher yeoman
De Morgan . . army
Dempster . . upper class
Denham . . . upper class
Denman . . . doctor
De Quincey . . merchant
D'Ewes . . . upper class
Dibdin . . . merchant
Dickens . . . clerk
Digby . . . upper class
Dobell . . . wine merchant
Doddridge . . oilman
Dodgson . . Church
Dodwell . . army
Dolben . . . Church
Donne . . . trade
Douglas . . . upper class
Doyle . . . artist
Drake . . . upper class
Drummond (T.) . lawyer
Drummond (W.) . upper class
Dryden . . . upper class
Dudley . . . upper class
Du Maurier upper class glass manufacturer
Dundas upper class lawyer
Dunning . . lawyer
Dunstan . . . upper class
Dyce . . . doctor

EASTLAKE (C.) . admiralty agent
Eastlake (Lady) . doctor
Edgeworth . . upper class
Edwardes . . Church
Edwards . . army
Eliot . . . upper class
Elyot . . . lawyer
Emlyn . . . trade
Erskine . . . minister
Etheridge . . army
Etty . . . miller and baker

FANSHAWE . upper class
Faraday . . . smith
Farquhar . . Church
Faucit . . . actor
Fawcett . . . draper
Ferguson . . day labourer
Fergusson . . clerk
Ferrar . . . merchant

Ferrier	law
Fielding	upper class army
Fitzgerald	upper class
Fitzgibbon	lawyer
Flamsteed	maltster
Fletcher (A.)	upper class
Fletcher (J.)	Church
Flinders	doctor
Flood	lawyer
Foote	trade
Forbes (E.)	banker
Forbes (J.)	upper class
Ford	upper class
Forster	minister
Fox (C. J.)	upper class
Fox (G.)	weaver
Foxe (R.)	yeoman
Francis	Church
Franklin	trade
Franks	navy
Frere	ironmaster
Froude	Church
Fry	banker
Fuller	Church
GAINSBOROUGH	woollen manufacturer
Galt	sea captain
Gardiner	cloth worker
Garrick	army
Gascoigne	upper class
Gaskell	minister
Gauntlett	Church
Geoffrey	priest
Gibbons	musician
Gibson	market gardener
Gifford	sailor
Gilbert (J.)	estate agent
Gilbert (W.)	recorder
Gillray	soldier
Giraldus	upper class
Girtin	rope-maker
Gladstone	merchant
Godwin (W.)	minister
Goldsmith	Church
Gordon	army
Gower	upper class
Graham (G.)	doctor
Graham (J.)	upper class
Grattan	lawyer
Gray	money scrivener lawyer
Grenville (G.)	upper class
Grenville (W.)	upper class
Gresham	merchant
Grew	minister
Grey	army
Grote	banker
Hale	lawyer
Hallam	Church
Halley	soap-boiler
Hamilton (A.)	upper class
Hamilton (W.)	doctor
Hamley	navy
Hampden	upper class
Hardinge	Church
Harrington	upper class
Hartley	Church
Harvey	yeoman
Havelock	ship builder
Hawke	lawyer
Hawkwood	tanner
Haydon	printer
Hazlitt	minister
Hemans	merchant
Henderson	farmer
Herbert (A.)	lawyer
Herbert (E.)	upper class
Herbert (G.)	upper class
Herschel	man of science
Hickes	farmer
Hill	schoolmaster
Hinton	minister
Hoadley	Church schoolmaster
Hobbes	Church
Hodgson	banker
Hogarth	yeoman
Hogg	farmer
Holcroft	shoemaker
Holl	engraver
Hood (S.)	Church
Hood (T.)	publisher
Hook (T.)	composer
Hook (W.)	Church
Hooke	Church
Horner	merchant
Horrocks	farmer
Hort	upper class
Howard	upholsterer
Howell	Church
Hughes	author
Hunter (J.)	farmer
Hutcheson	minister
Hutton (J.)	merchant
Hutton (R.)	minister
Huxley	schoolmaster
Hyde	upper class

INCHBALD . farmer
Irving . . . tanner

JAMESON . . artist
Jeffrey lawyer (clerk in court of sessions)
Jenner . . . Church
Jerrold . . . actor
Jervis upper class lawyer
Jevons . . . nail maker
Johnson . . . trade
Johnston . . trade
Jones (I.) . . cloth worker
Jones (W.) . . yeoman
Jonson . . . minister
Jordan . . . stage underling
Joule . . . brewer
Jowett . . . furrier

KEATS . . livery stableman
Keble . . . Church
Keene . . . law
Kemble (F.) . . actor
Kemble (J. M.) . actor
Kemble (J. P.) . actor
Kemp . . . upper class
Ken . . . lawyer
Kennett . . . Church
Kenyon . . . farmer
Killigrew . . upper class
King (T.) . . trade
King (W.) . . miller
Kingsley (C.) . . Church
Kingsley (M.) . doctor
Kirkcaldy . . upper class
Knight . . . Church
Knowles . . . author
Knox . . . peasant

LANCASTER soldier shopkeeper
Lander . . . innkeeper
Landor . . . doctor
Landseer . . artist
Lane . . . Church
Lardner . . . minister
Latimer . . . yeoman
Laud . . . clothier
Law (J.) . . goldsmith
Law (E., Baron Ellenborough) . Church
Law (E., Earl of Ellenborough) . upper class
Law (W.) . . grocer
Lawes (H.) . . musician
Lawrence (H.) . army
Lawrence (J.) . army
Lawrence (S.) . trade
Lawrence (T.) . innkeeper
Lawes (J.) . . upper class
Layard . . . civil service
Leake . . . naval gunner
Lee . . . Church
Leech . . . coffee house keeper
Lefroy . . . Church
Leighton (F.) . doctor
Leighton (R.) . doctor
Leslie (A.) upper class army
Leslie (C.) . . Church
Leslie (J.) upper class Church
L'Estrange . . upper class
Lever . . . builder
Lewis (G. C.) . upper class
Lewis (J. F.) . . engraver
Lewis (W. T.) . actor
Liddon . . . navy
Lightfoot . . accountant
Lillo . . . jeweller
Lingard . . . carpenter
Linnell . . . wood carver
Linton (E.) . . Church
Lister . . . wine merchant
Livingstone . . small tea dealer
Lloyd . . . Church
Locke . . . lawyer
Lockhart . . minister
Lodge . . . grocer
Lovelace . . upper class
Lover . . . stockbroker
Lowe . . . Church
Lowth . . . Church
Lucas . . . upper class
Ludlow . . . upper class
Lyell . . . botanist
Lytton (B.) . . army
Lytton (Earl) . . upper class

MACAULAY . author
Macfarren . . theatrical manager
Mackenzie . . doctor
Mackintosh . . army
Maclaurin . . minister
Maclise soldier shoemaker
Macnaghten . . lawyer
Macready . . actor-manager

Maginn . . . schoolmaster
Maine . . . doctor
Malthus . . . author
Manning . . merchant
Marlowe . . shoemaker
Marsh . . . Church
Marshall . . poor glover
Marston . . . lawyer
Marten . . . lawyer
Martineau (H.) . manufacturer
Martineau (J.) . manufacturer
Marvell . . . Church
Mathews (C.) . bookseller minister
Mathews (C. J.) . actor
Maurice . . . minister
Mead . . . minister
Merivale . . lawyer
Middleton (C.) . Church
Mill (J.) . . shoemaker
Mill (J. S.) . . author
Miller . . . captain of sloop
Milman . . . doctor
Milner (I.) . . business
Milner (J.) . . tailor
Milton . . scrivener yeoman (?)
Mitford . . . upper class
Moffat . . . custom house
Monck . . . upper class
Monson . . . upper class
Montagu (E.) . . upper class
Montagu (R.) . . Church
Moore (J.) doctor author
Moore (T.) . . provision dealer
More (T.) . . lawyer
Morgan (G. O.) . Church
Morgan (H.) . . upper class
Morgan (S.) . . actor
Morland (G.) . . artist
Morland (S.) . . Church
Morris . . . bill broker
Morley . . . upper class
Morton . . . mercer
Mulready . . leather breeches maker
Mun . . . merchant
Munday . . . draper
Munden . . . poulterer
Munro . . . merchant
Murchison . . doctor
Murdock . . millwright
Murray . . . publisher
Myers . . . Church

NAIRNE . . upper class
Napier (C.) . . upper class
Napier (C. J.) upper class army
Napier (J.) . . upper class
Napier (Sir J.) . merchant
Napier (R.) . . army
Napier (W J. P.) upper class army
Nash . . . Church
Nasmyth (J.) . . artist
Nasmyth (P.) . . artist
Naylor . . . yeoman
Neale (E.) . . Church
Neale (J.) . . Church
Neill . . . army
Neilson (J.) . . millwright
Nelson . . . Church
Newman (F. W.) . banker
Newman (J. H.) . banker
Newton . . . yeoman farmer
Nicholson . . doctor
Northcote . . watchmaker
Norton . . . business
Nott . . . yeoman farmer

OGLETHORPE . army
Oldcastle . . upper class
Oldfield . . . army
Oldys . . . lawyer
Oliphant (L.) . . lawyer
Oliphant (M.) . business
O'Neill . . . upper class
Opie (A.) . . doctor
Opie (J.) . . carpenter
Ordericus . . priest(married)
Otway . . . Church
Oughtred . . Church
Outram . . . civil engineer
Owen (J.) . . Church
Owen (Sir R.) . merchant
Owen (R.) . . saddler

PAGET(J.) brewer shipowner
Paine . . . farmer
Paley . . . Church
Palmer (E. H.) . schoolmaster
Palmer (J.) . . soldier
Palmer (R.) . . Church
Palmer (S.) . . bookseller
Park . . . farmer
Parker (M.) . . calenderer of stuffs
Parker (T.) . . lawyer

Parkes (H.) . . farmer
Parkes (H. S.) . ironmaster
Parnell . . . upper class
Parr . . . doctor
Parsons (R.) yeoman blacksmith
Parsons (W.) . . carpenter
Pater . . . doctor
Patmore . . . author
Patrick . . . deacon (married)
Pattison . . . Church
Pearson (J.) . . Church
Pearson (J. L.) . artist
Peel . . . manufacturer
Peele . . . business
Pellew . . . sea captain
Penn (Sir W.) merchant sea captain
Penn (W.) . . navy
Pepys . . . tailor
Perry . . . builder
Petty . . . clothier
Phelps . . . outfitter
Phillip . . . soldier
Pitman . . . factory overseer
Pitt (W., Earl of Chatham) . . upper class
Pitt (W.) . . upper class
Pollock . . . saddler
Pope . . . merchant
Porson . . . weaver
Pott . . . lawyer (scrivener)
Powell . . . ale keeper
Pratt . . . lawyer
Preston . . . farmer
Prestwich . . wine merchant
Price . . . minister
Priestley . . cloth dresser
Prior . . . joiner
Pugin . . . architect
Pulteney . . upper class
Purcell . . . music copyist
Pusey . . . upper class

QUARLES . . upper class
Quin . . . lawyer

RADCLIFFE . trade
Raeburn . . . mill owner
Raffles . . . sea captain
Raleigh . . . upper class
Randolph . . steward
Ray . . . blacksmith
Reid (T.) . . minister
Reid (W.) . . minister
Reynolds . . Church
Richardson . . carpenter
Ritson . . . yeoman
Robertson . . minister
Robinson . . navy
Rogers . . . merchant
Romney . . builder and cabinet maker
Roscoe market gardener tavern keeper
Rose . . . Church
Ross (H. D.) . . army
Ross (R.) . . army
Rossetti (C.) . . opera librettist, etc.
Rossetti (D. G.) . opera librettist, etc
Rowe . . . lawyer
Rowlandson . . merchant
Ruskin . . . wine merchant

SADLER . . upper class
St. John . . . upper class
St. Leger . . upper class
Sale . . . army
Sancroft . . . yeoman
Scott (D.) . . engraver
Scott (G. G,) . . Church
Scott (J.) . . coal factor
Scott (Walter) . lawyer
Scott (William) . coal factor
Sedgwick . . Church
Seeley . . . publisher
Selden . . . yeoman
Shakespeare yeoman trade
Sharp . . . salter
Sheil . . . upper class
Sheldon . . . menial servant
Shelley . . . upper class
Sheridan . . actor
Siddons . . . actor
Sidgwick . . Church
Sidney . . . upper class
Simpson . . . baker
Sinclair . . . upper class
Smart . . . nobleman's steward
Smith (A.) . . lawyer
Smith (H. J. S.) . lawyer
Smith (S.) . . business
Smith (T.) . . upper class
Smith (W.) . . farmer

Smith (W. R.)	minister
Smith (W. S.)	army
Somers	lawyer
Somerville	navy
South	merchant
Southey	farmer
Southwell	upper class
Speke	army
Spelman	upper class
Spenser	cloth maker
Sprat	Church
Stanhope	upper class
Stanley	Church
Steele	lawyer
Stephen	official
Stephenson	fireman
Sterne	army
Stevens	house painter
Stevens	sea captain
Stevenson	engineer
Stewart	minister
Stothard	publican
Street	lawyer
Stubbs	currier
Sturgeon	shoemaker
Suckling	upper class
Sullivan	musician
Sydenham	upper class
Symonds	doctor
TAIT	upper class
Tarleton	merchant
Taylor (H.)	upper class
Taylor (J.)	barber surgeon
Taylor (W.)	manufacturer
Telford	shepherd
Temple	upper class
Tennyson	Church
Thirlwall	Church
Thompson	upper class
Thomson	minister
Thurloe	Church
Thurlow	Church
Tillotson	cloth worker
Toland	priest
Tone	coach maker
Tooke	poulterer
Trelawney	army
Trevitheck	mine manager of humble origin
Trollope (A.)	lawyer
Trollope (H.)	Church
Tunstall	upper class
Turner	barber
Tyndall	upper class
URQUHART	upper class
Ussher	lawyer
VANBURGH	sugar baker
Vane	upper class
Varley	tutor
Vaughan	upper class
Vere (F.)	upper class
Vere (H.)	upper class
Vernon	upper class
WALKER	working jeweller
Wallace	upper class
Waller (E.)	upper class
Waller (W.)	upper class
Wallis	Church
Walpole (H.)	upper class
Walpole (R.)	upper class
Walsingham	lawyer
Walter	coal merchant
Walton	yeoman
Warburton	town clerk
Ward (M.)	upper class
Ward (S.)	lawyer
Ward (W. G.)	financier
Warham	upper class
Warton	author
Watson (R.)	Church
Watt	carpenter
Webster	actor and musical composer
Wedgwood	potter
Wentworth	doctor
Wesley (C.)	Church
Wesley (J.)	Church
Westmacott	sculptor
Whateley	Church
Wheatstone	music seller
Whewell	carpenter
Whiston	Church
Whitbread	brewer
White (G.)	lawyer
White (J. B.)	merchant
Whitefield	innkeeper
Whitelocke	lawyer
Whitgift	merchant
Whitworth	minister
Wilberforce (W.)	upper class
Wilde	doctor
Wilfrid	upper class

Wilkes	malt distiller
Wilkie	minister
Wilkins	goldsmith
Willett	lawyer
Williams (C. H.)	manufacturer
Williams (Sir R.)	upper class
Williams (R.)	tailor
Williams (W.)	Church
Williamson (J.)	Church
Williamson (W.)	gardener
Wilson (J.)	manufacturer
Wilson (R.)	Church
Wilson (R. T.)	artist
Windham	army
Winthrop	lawyer
Wiseman	merchant
Woffington	bricklayer
Wolcot	doctor
Wolfe	army
Wollaston	Church
Wolsey	grazier
Woodward	tallow chandler
Woolner	post office official
Wordsworth (Chas.)	Church
Wordsworth (Christopher)	Church
Wordsworth (W.)	lawyer
Wotton (H.)	upper class
Wotton (N.)	upper class
Wren	Church
Wright (J.)	lawyer
Wright (T.)	printer
Wulfstan	upper class
Wyatt	upper class
Wycherley	lawyer
YATES.	ship's stewar
Yorke	lawyer
Young (A.)	Church
Young (E.)	Church

APPENDIX D.

STATURE.

5 ft. 0 in.	W. Blake T. Moore
5 ft. 1 in.	Caius H. Coleridge Keats
5 ft. 2 in.	Hunter
5 ft. 3 in.	De Quincey G. White S. Wilberforce
5 ft. 4 in.	Nelson
5 ft. 5 in.	Linnell Richardson
5 ft. 6 in.	Cockburn R. Fergusson Jeffrey * B. Lytton J. Wesley
5 ft. 7 in.	Bright Madox Brown Maurice C. J. Napier Otway
5 ft. 8 in.	Byron T. Lawrence Macaulay J. S. Mill Rossetti Swift † Tooke
5 ft. 9 in.	Burns S. Coleridge Dickens Gordon Paine Priestley W. Wordsworth
5 ft. 10 in.	Burke O. Cromwell Hogg Huxley Kenyon Marryatt C. Mathews Mulready Prestwich Ruskin Stevenson Street A. Trollope Wakley
5 ft. 11 in.	Sir R. Burton Carleton Carlyle Froude Liston O'Connell Porson Sedgwick Southey J. Wilson

* According to one description Jeffrey was "scarcely five feet."

† It is worth noting that Swift was considered tall by his contemporaries.

6 ft. 0 in.
- R. Boyle
- Clapperton
- C. Darwin
- Millais
- W. J. Napier
- Park
- W. Scott
- Selden
- Tait

6 ft. 1 in.
- Cobbett
- J. Cook
- Fielding
- Galt
- Hobbes
- Leech
- Petty
- Reade
- Tennyson

6 ft. 2 in. Trevitheck

6 ft. 3 in.
- Borrow
- Fawcett
- Irving *
- Thackeray

6 ft. 4 in.
- J. Bruce
- Duncan
- Graham

* The estimates of Irving's height vary between 6 ft. 2 in. and 6 ft. 4 in.

APPENDIX E.

PIGMENTATION.

THE individuals whose pigmentation I have been able to ascertain are here arranged alphabetically in their groups: Fair, Medium, Dark. To facilitate reference no note is here taken of the three sub-divisions of the medium group.

I.—FAIR.

Addison, Amherst, Arkwright, Beaton, Berkeley, Blackmore, Bright, Brown, Buchanan, C. Campbell, J. Campbell, S. Canning, Cantelupe Clifford, Congreve, Copley (Lord Lyndhurst), Cowper, Cullen, Dee, Denham, Etty, Fergusson, Fitzgerald, A. Fletcher, J. Fletcher, Freeman, Frobisher, Gordon, Gray, Hardinge, Hogarth, Hogg, Hort, Hutcheson, A. Leslie, B. Lytton, Earl Lytton, Munden, Newton, H. S. Parkes, Peel, Pellew, Sir W. Penn, Pusey, Randolph, Richardson, Ruskin, Sabine, Shelley, A. Smith, Smollett, Street, Thackeray, Tooke, Trevitheck, Turner, Tyndall, Vane, Wakley, Walker, W. Waller, Wallis, Westmacott, Whitefield, Whitgift, J. Wilson, Wolfe.

II.—MEDIUM.

Anson, M. Arnold, Austen, Austin, F. Bacon, N. Bacon, Baillie, Bancroft, J. Banks, Barnes, I. Barrow, J. Barrow, E. Barry, J. Barry, Becher, C. Brontë, Bennett, J. Bentham, Bentley, Bewick, Blackstone, W. Blake, Bonington, Boscawen, Boswell, Bowring, R. Boyle, Bradley, H. Bradshaw, Brewster, Brougham, E. Browning, R. Browning, Burbage, Burke, Burns, S. Butler, Byng, Byron, Cadogan, T. Campbell, Canton, Carlyle, M. Carpenter, Cayley, Cecil, Chalmers, Chantrey, Chatterton, Chaucer, Chillingworth, C. Churchill, C. Cibber, Clark, R. Clive, Cobbett, Cockburn, Coke, S. Coleridge, William Collins, Colman, Cooper (First Lord Shaftesbury), R. Cotton, A. Cowley, Crabbe, Cranmer, Crichton, Croker, O. Cromwell, Cross, Cruikshank, C. Darwin, E. Darwin, Davy, Defoe, Denman, De Quincey,

Dickens, Dobson, Dryden, Flaxman, Flowers, C. J. Fox, Francis, Fry, Gainsborough, Gifford, Girtin, Gladstone, Goldsmith, G. Graham, Grattan, Grote, Harrington, Harvey, Hastings, Haydon, Hazlitt, Hill, Hoadley, Hobbes, Holcroft, T. Hood, Hooke, Horner, J. Hunter, Huxley, Hyde, Inchbald, Jenner, Jerrold, Jervis, Johnson, I. Jones, Jonson, Jowett, Keats, F. Kemble, Kenyon, Knox, Lambert, Lander, Landon, Landor, Landseer, E. Law (Baron Ellenborough), J. Law, W. Law, Latimer, H. Lawrence, J. Lawrence, S. Lawrence, Leech, J. Leslie, Lever, G. H. Lewes, Livingstone, Locke, Macaulay, Mackenzie, Mackintosh, Maclise, Macready, Maginn, Malone, Manning, Marryatt, H. Martineau, J. Martineau, Mead, C. Middleton, J. S. Mill, Millais, Miller, Milton, Mitford, C. Montagu, T. More, G. Morland, Morris, Murchison, C. Napier, C. J. Napier, Nelson, J. H. Newman, O'Connell, Oldfield, A. Opie, J. Opie, Sir R. Owen, R. Owen, W. Paget, Paine, Park, Patmore, Pepys, Petty, Perkins, Pitt (Lord Chatham), Pitt, Pococke, Pope, Popham, Pratt, Priestley, Prior, Pulteney, Raffles, Reynolds, Rogers, Roscoe, Rose, C. Rossetti, D. G. Rossetti, Sancroft, J. Scott, Walter Scott, William Scott, Selden, Shakespeare, Sidgwick, Sidney, Sinclair, Smart, W. S. Smith, Somers, Somerville, Spelman, Spenser, Stanley, Stephenson, Stewart, Stothard, Suckling, Swift, Sydenham, Tait, H. Taylor, Thomson, Thurloe, H. Vere, E. Waller, R. Walpole, Warburton, Warham, Watt, J. Wesley, Whiston, G. White, S. Wilberforce, W. Wilberforce, Wilde, Wilkie, C. H. Williams, W. Williamson, Wolcot, W. Wordsworth, Wren, Wyatt, Wycherley.

III.—DARK.

Abercromby, Babbage, Bagehot, Baxter, Betterton, Bishop, Black, Borrow, Bracegirdle, J. Bruce, Burnet, Burton (Sir R.), Camden, J. Churchill, S. Cibber, Cobden, H. Coleridge, J. Cook, Crome, T. Cromwell, Curran, Dampier, Day, Dempster, Dibdin, Digby, Dolben, W. Drummond, Faraday, Ferrier, Fielding, J. Foxe, Froude, Galt, Garrick, Gay, Gibson, M. Godwin, Grenville (Baron), Gresham, Hale, Henderson, E. Herbert, T. Hook, Hooker, Howard, Hunt, Ireton, Irving, Jeffrey, Jewel, Juxon, Kean, Keble, Keene, J. M. Kemble, J. P. Kemble, Ken, Lamb, Lancaster, Laud, T. Lawrence, A. Leslie, Lovelace, Marvell, Melville, J. Milner, J. Moore, T. Moore, H. More, L. A. Neilson, Nicholson, Northcote, M. Oliphant, Otway, Oughtred, Outram, J. Owen, Paley, Parr, R. Parsons, Phillip, Picton, Prestwich, Quarles, Raleigh, Raeburn, Ray, Reade, R. Reid, Ridley, Romney, Sedgwick, Sheridan, Siddons, S. Smith, Southey, Steele, Steevens, Stevenson, Symonds, J. Taylor, Temple, Tennyson, Thurlow, Tillotson, Ussher, H. Walpole, Whitelocke, J. Williamson, Windham, Winwood, Wishart, Woffington, Wolsey, J. Wright, Yates.

INDEX.

The names of authorities are italicised.

ABERDEEN, GENIUS OF, 61; university, 145.
Actors, regional distribution of great, 74; parentage of, 87; pigmentation of, 214.
Ahlfeld, 129.
Akenside, 9.
Angina pectoris and genius, 187.
Anglo-Danish district, genius of, 49, 68.
Ansell, 107, 112, 113, 125, 128, 131, 156, 160.
Apoplexy and genius, 179.
Arblay, F. d', 141, 159.
Arbuthnot, 9.
Area, distribution of genius on basis of, 33 *et seq.*
Aretæus, 183, 186.
Aristotle, 220, 230.
Army and parentage of genius, 84.
Arréat, 86.
Artisans and partage of genius, 83.
Artists, regional distribution of, 73; heredity of, 84 *et seq.*, 97; pigmentation of, 213.
Asthma and Genius, 187.
Awkwardness a genius, muscular, 201.
BACON, F., 51, 70.
Balde, 182.
Ball, B., 110, 169.
Bankers among parentage of genius, 81.
Banks, Sir J., 142.
Barrow, J., 142.
Beauty and genius, 217.
Beckett, 26.
Beddoe, 35, 46, 47, 49, 56, 86, 209, 210, 211, 214.
Bentham, J., 135.
Biographical methods, 16 *et seq.*
Birthplace as a criterion of origin, 21.
Births, causes of excess of male, 113.
Blake, 190.
Bonn University, 146.
Boys in genius-producing families, predominance of, 112.
Bradshaw, J.
Brontë, C., 159.
Brown, T., 9.
Browne, Sir T., 54, 219.
Browning, E. B., 159.
Bruce, J., 135.
Brynmor-Jones, 47, 59.
Brythons, 48, 58.
Buchanan, 150.

Burns, 218.
Byron, 140.

CAMBRIDGE UNIVERSITY AND GENIUS, 69, 144 *et seq.*
Campbell, H., 44, 120.
Cantlie, 44.
Carman, Miss, 119.
Carpenters and parentage of genius, 82.
Cassel, 111, 199.
Cattell, J. M., 8, 11, 15, 124.
Caxton, 150.
Celibacy and genius, 152 *et seq.*
Chalmers, 142.
Chamberlain, A. F., 137.
Chatterton, 141, 174, 218.
Cheerfulness and genius, 220.
Christopher, 207.
Chronological distribution of British genius, 11.
Clergy and the parentage of genius, 79, 89.
Clouston, 198.
Clumsiness and genius, 201.
Collins, 128.
Collins, F. H., 106, 164.
Commercial avocations and parentage of genius, 81 *et seq.*, 89.
Constable, 135.
Consumptive men of genius, 179.
Cooley, C. H., 91.
Cotton, Sir A. T., 174.
County basis, distribution of genius on, 29 *et seq.*
Cowley, 153.
Cowper, 195.
Craftsmen and parentage of genius, 82, 85, 89.
Criminality in relation to genius, 110, 118, 126, 128, 132.
Cromwell, T., 142
Cullen, 183.

DALTON, 153.
Darwin, C., 55, 69, 96, 151.
Dexter, E., 146.
Dickens, 135.
Dictionary of National Biography, 1, 4, 5, 6, 7, 14, 16, 18.
Disparity of parents' age at eminent child's birth, 130, 132.
Divines, regional distribution of, 65; ill health of, 178; pigmentation of, 214.
Doctors and parentage of genius, 84.
Douai College, 145.
Down, Langdon, 80, 110, 118, 131.
Doyle, Sir Conan, 24, 39, 41.
Dramatic ability, regional distribution of, 74.
Dryden, 219.
Dublin, genius of, 64.
Duckworth, Sir Dyce, 185.
Dugdale, 118.
Duncan, Matthews, 129, 134.
Dutch elements in British genius, 27, 43.

EAST ANGLIA, GENIUS OF, 40, 42, 49, 50, 51, 70, 213.
Edinburgh, genius of, 61; University, 145.
Education of men of genius, 143 *et seq.*
Eichholz, 199.
Eighteenth century, genius of, 11, 12, 14, 35.
Eldest-born children, genius and, 116 *et seq.*, 208.
Eliot, George, 159.
Engelmann, J. G., 165.
Environment on genius, influence of, 75.
Epilepsy and genius, 196.
Explorers, pigmentation of, 214.

Eye-colour, 209 *et seq.*
Eyes of men of genius, 217.

FATHERS OF EMINENT MEN, ABILITY OF, 99 *et seq.*; age of at eminent child's birth, 120 *et seq.*
Fèré, 201.
Fertility of men of genius, 163 *et seq.*
First-born children, 116 *et seq.*, 208.
Flemish elements in British genius, 27, 43.
Fletcher, Joseph, 34, 75.
Foreign countries, residence of men of genius in, 149 *et seq.*
Foreign elements in British men of genius, 26.
France, residence of British men of genius in, 144, 150.
French elements in British men of genius, 26 *et seq.*, 43, 64.

GALTON, F., 67, 68, 91, 94, 101, 108, 109, 118, 124, 127, 166, 169, 175, 206, 225, 226.
Garrod, 184.
Geissler, 113.
Genius, sense in which the word is used, 19.
German elements in British genius, 27.
Giantism, 207.
Gibbon, 147.
Gilbert, J. A., 207.
Gilbert, W., 10, 70.
Gildas, 56.
Glasgow University, 145.
Göttingen University, 146.
Goidels, 48, 58.
Goldsmith, O., 141.
Goodhart, 201.
Gout and genius, 180 *et seq.*
Grasset, 231.
Gregory, Lady, 65.
Guppy, H. B., 47.

HAIR-COLOUR, 209 *et seq.*
Hales, S., 71, 222.
Hall, Marshall, 198.
Hall, R., 9.
Hamilton, Lady Emma, 6.
Hamilton, Sir W. R., 196.
Handwriting and genius, illegible, 200.
Hartwell, E. M., 198.
Harvey, 55, 71.
Health of men of genius, 134, 177.
Heidelberg University, 146.
Herbert of Cherbury, Lord, 196.
Hobbes, 53, 135.
Holway, R. S., 128.
Hooker, 219.
Huguenots, 26, 64.
Humanism in England, 13.
Hume, 138.
Humphry, Sir J., 119.
Hutchinson, Woods, 184.

IDIOCY IN RELATION TO GENIUS, 80, 110, 118, 126, 131, 134, 203, 228.
Imprisonment of men of genius, 223.
Infancy of men of genius, 133 *et seq.*
Infantilism, 208.
Insanity in relation to genius, 110, 128, 187, 188 *et seq.*, 227, 229.
Ipswich, genius of, 41.
Ireland, W. W., 203.
Irish genius, 23 *et seq.*, 28, 63 *et seq.*, 75.
Italian elements in British genius, 27.

JASTROW, J., 137.
Jeffreys, 9.
Jewellers among parentage of artists, 86.

Jews, 26.
Jutes, 56.

KENT, GENIUS OF, 34, 40, 43, 55.
Körösi, 131.
Kraepelin, 201.

LANDOR, 54.
Lawyers and parentage of genius, 84.
Laycock, 185.
Leicestershire, genius of, 49.
Leinster, genius of, 49.
Leslie, C., 120, 130.
Leyden University, 145.
Lincolnshire, genius of, 49, 73.
Lombroso, 125, 226.
London, genius of, 22, 35, 41, 43, 44.
Longevity of genius, 171 *et seq.*
Louvain University, 146.
Lyell, 151.

MACAULAY, 54, 202.
Macdonald, A., 119, 208.
Mackintosh, 56.
Maclean, A. H. H., 24, 41, 91, 146.
Magri, 110.
Marandon de Montyel, 110, 169.
Marlborough, 52.
Marro, 125, 128, 132, 186, 221.
Maudsley, 190, 192.
Melancholy and genius, 220 *et seq.*
Middlesex, genius of, 43.
Midlothian, genius of, 61.
Mill, J. S., 143.
Mitchell, Sir A., 118.
Möbius, 97.
Montague, 10.
Moll, 118.
More, Hannah, 10.
Moreau (de Tours), 231.
Morris, W., 230.
Mothers, debt of men of genius to their, 103.
Mothers' age at eminent children's birth, 126 *et seq.*
Müller, Max, 97.
Munden, 214.
Murchison, 143.
Musical composers, 5; precocity of, 142.
Myopia and genius, 201.

NÄCKE, 118.
Napoleon III., 10.
National Portrait Gallery, 215.
New England and East Anglia, 50.
Neurasthenia and genius, 197.
Newton, Sir I., 49, 69, 142.
Nigrescence, index of, 211.
Nineteenth Century, British genius in the, 12, 14, 33, 88, 92, 122, 150, 161, 165.
Norfolk, genius of, 39, 40.
Normans, 26.
Northamptonshire, genius of, 49.
Nottinghamshire, genius of, 49, 73.

OATES, TITUS, 5.
Odin, 91.
Ordovices, 58.
Oxford University and genius, 144 *et seq.*

PADUA UNIVERSITY, 145.
Papillault, 207.
Pearson, K., 106, 108, 164, 168.
Peers, hereditary, 3.
Perkins, 143.
Permewan, 200.
Pigmentation, index of, 211 *et seq.*
Pitt-Rivers, 45.
Poll-tax returns, 33.
Poets, regional distribution of, 66; heredity of, 97.
Population, distribution of genius on basis of, 33 *et seq.*

Porter, 207.
Posthumous children, 136.
Powell, E., 33.
Precocity of genius, 136 *et seq.*
Priestley, 202.
Professional class element among men of genius, 90.
Purcell, 54.

RALEIGH, 51.
Rauber, A., 115.
Ray, 151.
Reformation in England, 13.
Renaissance in England, 13, 34.
Régis, 110, 169.
Reveillé-Parise, 220, 222.
Reynolds, Sir J., 52, 153.
Rheumatism and genius, 187.
Rhys, J., 47, 59.
Ripley, 21, 46.
Roberton, 129.
Royalty, 3.
Rutland, genius of, 40, 69.

SAILORS, REGIONAL DISTRIBUTION OF GREAT, 72, 213.
St. Andrew's University, 145.
St. Patrick, 150.
Saxon counties, genius of, 43, 56.
Scientific men, regional distribution of, 67 *et seq.*; heredity of, 101; pigmentation of, 213.
Scotch genius, 23 *et seq.*, 59 *et seq.*, 66, 72.
Scott, Sir W., 138.
Seventeenth century, British genius in, 15, 28.
Shakespeare, 54.
Shelley, 202.
Short sight and genius, 201.
Shuttleworth, 118.
Shyness and genius, 218.
Sidgwick, Mrs. H., 108, 109.
Sidney, Sir P., 154.
Siddons, 55.
Simpson, Sir J. Y., 164.
Simpson, Sir W. G., 134.
Smart, C., 195.
Soldiers, regional distribution of great, 71.
Somerset, genius of, 52.
Somerville, Mrs., 10.
Sorbonne, 144.
South-western focus of genius, 44, 51, 71.
Spasmodic muscular movements, 200.
Speech defects and genius, 197 *et seq.*
Spencer, H., 146.
Stammering and genius, 197 *et seq.*
Starbuck, 119, 128.
Sterility of men of genius, 163 *et seq.*
Stone, prevalence of, 187.
Stowell, Lord, 136.
Suffolk, genius of, 39, 40, 41, 50.
Sully, J., 137, 148.
Sutherland, genius of, 62.
Sydenham, 182.

TAYLOR, I., 49.
Temperament of genius, 226.
Thorndike, E. L., 162.
Thurlow, 142.
Timidity and genius, 218.
Toulouse, 110, 169.
Trade and the parentage of genius, 81 *et seq.*, 89.
Trinity College, Dublin, and genius, 144.

ULSTER, GENIUS OF, 64.
University education of men of genius, 143 *et seq.*
Unskilled workers and parentage of genius, 83.

Upper class group of men of genius, 78, 90.
Utrecht University, 145.

VARIGNY, H. DE, 206.
Voice in men of genius, high-pitched, 206.

WALL, A. J., 115.
Walloon element in British genius, 27, 43.
Walpole, 50.
Watson, 183.
Wells, G. S., 119.
Wells, Sir Spencer, 183, 185.
Welsh Border, genius of, 46, 54, 70.
Welsh genius, 23 *et seq.*, 28, 47, 57 *et seq.*
West Indian families and genius, 151.
Williams, H., 56.
Winter, L., 118.
Wiseman, 140.
Wives of men of genius, insanity among, 193.
Women of genius, British, 10, 28, 38, 74, 108, 153, 157 *et seq.*, 163, 176.
Writer's cramp and genius, 201.
Wyllie, 198.

YEO, BURNEY, 185.
Yeomen and parentage of genius, 78.
Yoder, A. H., 109, 114, 117, 124, 128, 134.
Young, T., 54.
Youngest born children, genius in, 116 *et seq.*

NEW WORK BY JOHN ASHTON.

In 1 vol., demy 8vo, containing numerous Illustrations from old Cartoons, Broadsheets, &c. Price 7s. 6d. net.

Gossip in the First Decade of Victoria's Reign.

By JOHN ASHTON, Author of "Social Life in the Reign of Queen Anne," &c.

NEW WORK BY MICHAEL DAVITT.

Based upon Personal Investigations in Russia.

In 1 vol., crown 8vo, cloth. Price 5s.

Within the Pale:

The True Story of Anti-Semitic Persecutions in Russia.

By MICHAEL DAVITT, Author of "Leaves from a Prison Diary," "Life and Progress in Australasia."

The Hearts of Men.

By H. FIELDING, Author of "The Soul of a People," &c. In 1 vol., demy 8vo. Price 10s. 6d. net. Second Edition.

The Man in the Iron Mask.

By TIGHE HOPKINS, Author of "An Idler in Old France," "The Dungeons of Old Paris," &c. A true history of the Man in the Iron Mask as opposed to the Popular Legend. In 1 vol., large crown 8vo, with numerous Portraits and Plans of Prisons. Special binding. Price 7s. 6d. net.

An Idler in Old France.

By TIGHE HOPKINS, Author of "The Dungeons of Old Paris," "Nell Haffenden," &c. In 1 vol., crown 8vo, extra cloth. Price 6s.

LONDON: HURST AND BLACKETT, LIMITED.

Gypsy Folk-Tales.

By FRANCIS HINDES GROOME, Author of "In Gypsy Tents," "Two Suffolk Friends," &c. In 1 vol., demy 8vo. Price 12s.

Personal Forces of the Period.

By T. H. S. ESCOTT, Author of "England: Its People, Polity and Pursuits," "Social Transformations of the Victorian Age," &c. In 1 vol., large crown 8vo, extra cloth. Price 6s.

Præraphaelite Diaries and Letters.

Containing Letters of DANTE GABRIEL ROSSETTI; Diary of FORD MADOX BROWN; the P.R.P. Journal, by W. ROSSETTI. Edited by WILLIAM MICHAEL ROSSETTI. In 1 vol., crown 8vo. Illustrated. Price 6s.

The Old Court Suburb.

(Original Edition.) By LEIGH HUNT. In 1 vol., crown 8vo, with Frontispiece. Price 5s.

Family Romance:

Or, the Domestic Annals of the Aristocracy.

By SIR BERNARD BURKE, Ulster King-of-Arms. In 1 vol., crown 8vo, with Frontispiece. Price 5s.

The Romance of the Forum:

Or, Narratives, Scenes and Anecdotes from Courts of Justice.

By PETER BURKE, Serjeant-at-Law. In 1 vol., crown 8vo, with Frontispiece. Price 5s.

LONDON: HURST AND BLACKETT, LIMITED.

Dr. SVEN HEDIN'S GREAT WORK

Central Asia and Tibet:

TOWARDS THE HOLY CITY OF LASSA.

In 2 vols. 1,200 pages, 420 Illustrations from Drawings and Photographs, Portrait of the Author, 8 full-page Coloured Illustrations from Paintings, and 5 Maps.

Handsomely Bound in Cloth, Gilt Top.

PRICE:

TWO GUINEAS NET.

An Illustrated Prospectus containing Synopsis of Contents, &c., can be had on Application.

LONDON: HURST AND BLACKETT, LIMITED.

Books always in Demand.

THE WONDERFUL CAREER OF EBENEZER LOBB.
Related by Himself. Edited, with an Appreciation, by ALLEN UPWARD. One Vol., crown 8vo. Price 3s. 6d.

FOLLY AND FRESH AIR.
By EDEN PHILLPOTS, Author of "The Human Boy," "My Laughing Philosopher," &c. Illustrated by J. LEYS PETHYBRIDGE. One Vol., crown 8vo. Price 3s. 6d.

THE SECOND THOUGHTS OF AN IDLE FELLOW.
By JEROME K. JEROME, Author of "Three Men in a Boat," &c., &c. One Vol., crown 8vo. Price 3s. 6d.

THE NEW FICTION, and other Essays on Literary Subjects.
By H. D. TRAILL, Author of "The New Lucian," "The Life of Sir John Franklin," &c. One Vol., crown 8vo. Price 6s.

LADY HAMILTON AND LORD NELSON.
By JOHN CORDY JEAFFRESON. New and Revised Edition. Containing Additional Facts, Letters, and other Materials. With Portrait of Lady Hamilton. One Vol., large crown 8vo, gilt top. Price 6s.

THE REAL LORD BYRON.
By JOHN CORDY JEAFFRESON. With Portrait of Lord Byron, by T. PHILLIPS, R.A., engraved on steel. One Vol., crown 8vo. Price 5s.

FIFTY YEARS OF MY LIFE IN THE WORLD OF SPORT AT HOME AND ABROAD.
By SIR JOHN DUGDALE ASTLEY, Bart. One Vol., crown 8vo, with Portrait. Price 6s. Also in small crown 8vo, cloth. Price 2s. 6d.

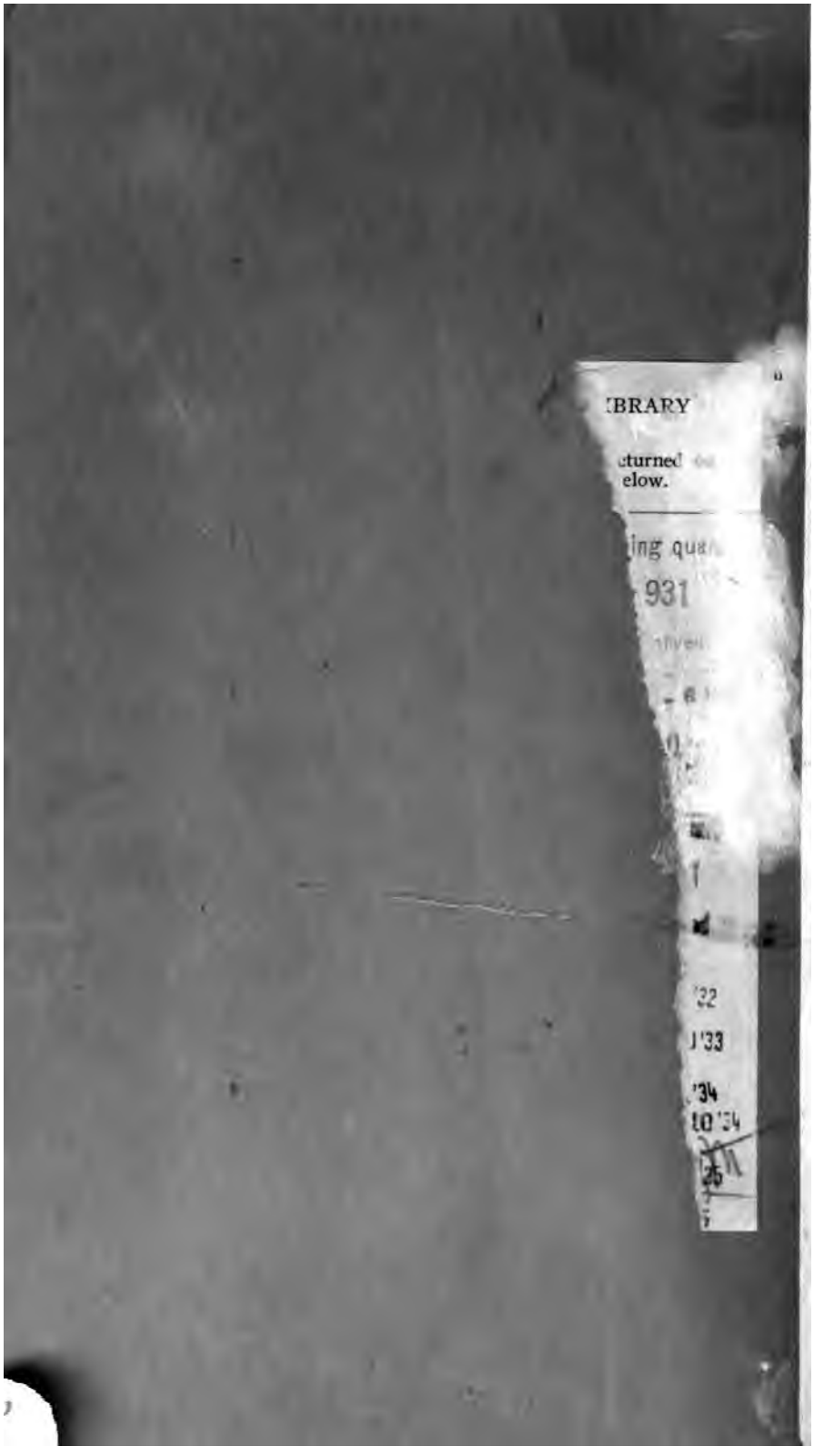
FROM YELDT CAMP FIRES. Stories of Southern Africa.
By H. A. BRYDEN, Author of "An Exiled Scot," "Gun and Camera in Southern Africa," &c. One Vol., crown 8vo, Price 3s. 6d.

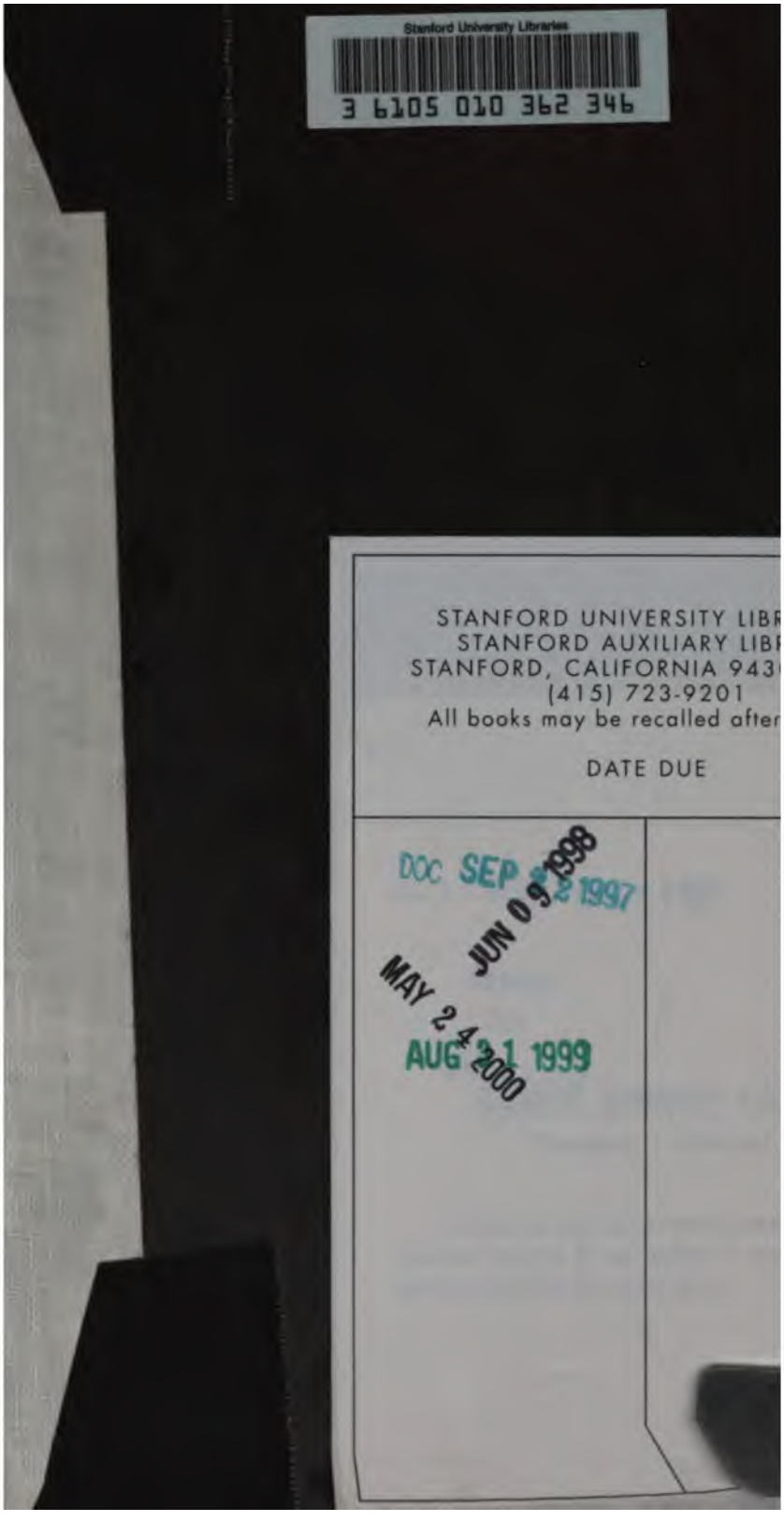
THE KISS OF ISIS.
By CAPT. ARTHUR HAGGARD, Author of "Only a Drummer Boy," "With Rank and File," &c. One Vol., crown 8vo. Price 3s. 6d.

LONDON AT THE END OF THE CENTURY.
By ARTHUR W. ÀBECKETT, Author of "The Member for Wrottenborough," "The Modern Adam," &c. One Vol. crown 8vo. Price 3s. 6d.

LONDON: HURST AND BLACKETT, LIMITED.




BRARY
turned
elow.
ing qua
931
'22
J'33
'34
EC '34


Stanford University Libraries
3 6105 010 362 346
STANFORD UNIVERSITY LIBR
STANFORD AUXILIARY LIBR
STANFORD, CALIFORNIA 943
(415) 723-9201
All books may be recalled after
DATE DUE
DOC SEP 1998
1997
JUN 09
MAY 24 2000
AUG 31 1999